

A: That depends on individual habits. I'll take effort to control, but some people are already used to it.

Q: How do you think to solve this problem?

A: Keep carrying out health promotion activities. Some people are aware of the problem, but they don't have enough determination to change it.

Q: Which do people in Fangshan eat more, plant food or animal food?

A: Plant food, vegetable mostly.

Q: What do you think about the food intake of children?

A: Just as the same as grown-ups. Pretty good in types and nutrient.

Q: What kind of vegetable people eat more in Fangshan?

A: That depends on individual habits. I like beans and carrots. Who cook at home will have impact on this family's eating habits.

Q: How do you feel about the intake of vegetable and fruits since the Reform and Opening up?

A: There're more of them. But I think there's still a distance to meet the food reference guidelines.

Q: How do you control the eating habits of your child?

A: My child is overweight a little. I'll control his meat intake and suggest him to eat more vegetable and fruits.

Q: How many people like vegetable and fruits around you?

A: Men are a little less than women.

Q: How many people can ensure to have breakfast?

A: Almost everyone.

Q: How's the frequency that your family eat fast food?

A: I never eat them. My child likes them, but I won't let him. I think the hormone problem in chicken is pretty severe, which will have bad influence on child's growing up.

Q: Did CDC ever carry out a investigation towards fast food intake of children?

A: No. I think the main group who eats fast food a lot are not children, but teenagers.

Q: Do people in Fangshan often eat outside?

A: That depends. We usually have meals at our canteen. We are now trying to reduce oil and salt in meals as the effort to build a demonstration canteen. Sometimes we'll eat outside when communicating with other departments. About twice a month I guess.

Q: What about drinking?

A: Some people like to drink, but most of them drink for work.

Q: Do you take nutrient supplements?

A: Never. I don't trust them. I feel vegetable and fruits are better.

Q: What do you think about the nutrient distribution among diets every day?

A: Breakfast must be taken, and lunch need to be rich. I always eat some vegetable at breakfast.

Q: Do people drink coffee and tea? What about beverages?

A: Few people drink coffee. Many people drink tea, like 20-30%, especially man. Grown-ups will drink beverages only if they eat outside. But children like them. I always tell my child not to drink them.

Q: Do you like soup?

A: I prefer gruel and soya bean milk.

Q: Do you control your appetite not to get too full?

A: Yes.

Q: Do you drink milk?

A: A glass of milk every day, about 250ml.

Q: Do schools offer milk?

A: No.

Q: Do parents prepare potluck for their children?

A: Yes. But they won't cook, most parents will buy bread.

Q: What kind of sports do people in Fangshan like?

A: Square dancing and fast walk. Playground in school will open during 6 to 7 o'clock. Women and people aged 30-40 are more often to be seen.

Q: Do you go to gym?

A: No. I don't have enough time. I bought a treadmill at home to lose some weight, and I succeed. I don't take dinners and go out for sports at 8 o'clock every night.

Q: Is there a unique sport in Fangshan?

A: There's a international long walk competition every year.

Q: How many young people insist on sports?

A: A few. Women, the retired and old people are more. I ride to work every morning, which takes me 40 minutes. I will go out for a walk for 30 minutes at noon in winter. I'll go swim in summer. I think personal will plays a important role in sports.

Q: What do you think about your body? Your colleagues?

A: Pretty good. Them, too.

Q: How's the situation of smoking and drinking?

A: Few students and women smoke. Some people drink a little for work.

Q: Did your health consciousness affect your family's?

A: Yes. But my health consciousness affects few residents in the community because I contact them less.

Q: Are there any health promotion activities in your community?

A: No. Cooperation among different departments isn't very efficient. But there're some sport facilities in my community.

Q: What health promotion methods do you think are more effective to young people?

A: To build demonstration canteens, organize health lectures and medical exams. We started this demonstration competition last year and it went well.

Q: What's the proportion of farmers and workers?

A: 50% each.

Q: How many people will volunteer to take medical exams?

A: Not too many. They always worried the expense unless it can be paid by employees.

Q: Will you suggest your family to take medical exams?

A: Yes.

Q: Do you think people are conscious of health changed?

A: Improved. They understand knowledge well, but still lack of the sense of crisis.

Q: What are the factors do you think that increased the incidence of obesity and chronic diseases?

A: I think it's a progress of the society development. What we can do is to shorten the progress. More attention should be paid on people aged 35-60.

Q: What measures do you think should be taken to prevent chronic diseases?

A: Self-management. Fangshan now carries out self-management of hypertension by build patient groups. Each group has a leader, who will be trained professionally to affect the lifestyle of this team. Companies should pay more attention to their employees and keep them health before retired, which I think has large health benefits.

Q: Will companies host medical exams?

A: Companies with good benefits will, like banks.

Q: Are there many small food stalls in summer?

A: Yes, especially barbecue stalls. People like that kind of atmosphere.

4. May 26th, 2013 Records of personal interviews in Zhoukoudian

Interviewee: Chief of Zhoukoudian health center

Q: Is there any special eating habits in Fangshan?

A: Old people's favor are light, while young people like meat. People in Fangshan like wheaten food, and have heavy flavor. Countryside is more severe, like Zhoukoudian.

Q: How are people's eating habits about vegetable?

A: If having own gardens, they'll eat whatever they have. Those who don't have gardens will buy vegetable at markets. Many poor people only eat potatoes, carrots and Chinese cabbages in winter.

Q: How are people's eating habits about meat?

A: My child like pork, I'll change the way to cook to meet his appetite. There's a Muslims village in Zhoukoudian, people in there don't eat pork.

Q: What affected people's food type? How are people's eating habits in Fangshan?

A: Custom. Heavy flavor is people's custom in Fangshan. Now they're aware of that, but it's hard to change what it used to be. And economic conditions. People living in villages only have a few kinds of vegetables. Recently people take more snacks and go out for dinner more often. Some people have their own gardens, and they feel more safety about the vegetable they sowed by themselves.

Q: Can you summarize diet changes of people in Fangshan?

A: Food used to be very short of. When I was a child living in a village, there was only one dish of vegetable every meal. People become rich since 2000, and be able to buy as many as food they want. People in Fangshan used to have heavy flavors, but now everyone knows to control salt intake due to more propagandas.

Q: Is everybody familiar with healthy lifestyle?

A: There are more health promotion activities these years. Those who always pay attention to activities are very concern about their diets. There are always health programs on TV. I think it will need a really long time to know healthy lifestyle.

Q: Is there a difference between villagers and people in urban areas?

A: People in urban areas eat outside more often than villagers. Villagers put more oil and salt in their food.

Q: Do villagers do exercise?

A: Yes, especially old people, like square dancing. Those who don't like square dancing will go out for a walk. Middle-aged people do less exercise because they are too busy and tired every day. There're many sport facilities around communities.

Q: How's villagers' lifestyle and behavior?

A: Many people smoke at public places. Few women smoke. But the number of girls smoke in middle schools is growing, just as older women. We carry out tobacco-control activities every year, but it seems ineffective. People know smoke is bad for health, but they don't care. Some people drink red wines, but not as many as beers and wines. There's no difference among different areas. There are few propaganda about alcohol. Most people know too much alcohol is harmful to health, but they don't know how exactly.

Q: Do villagers concern about their health condition?

A: Yes. We'll make health records for everyone, including doctor records and health guidance.

Q: What will villagers do when they catch a cold?

A: They prefer to see doctors. Many people will volunteer to run medical exams. There's a policy that allows old people to get medicines for coronary heart disease, stroke, hypertension and diabetes for free. And medical adherence is OK.

Q: Do villagers take nutrient supplements?

A: Yes, but a few of them. Like calcium and vitamin C pills. Some people drink medicinal wines.

Q: What will affect their lifestyle, except for those health promotion activities we did?

A: Salesman, TV and housewives' chat.

Q: How's the incidence of obesity and chronic diseases in the village?

A: Pretty high. Especially children and old people. The incidence of hypertension and diabetes are growing. Maybe it's because people didn't go to medical examination before, which resulted to the ignorance of chronic diseases.

Q: What do you think are the reasons of chronic diseases and obesity?

A: Lifestyle mostly, besides eating habits, sports and mental health issues. People now are more willing to compare with others, which lead to mental problems. There were only dozens of patients in the mental health care hospital in 1998, but now the number climbs to almost 600.

Q: What kind of psychosis is the most?

A: Schizophrenia.

Q: What measure can be take to reduce chronic diseases in the personal level?

A: Pay more time and energy to improve health awareness.

Q: Do villagers have any bad habits?

A: Smoking and lack of exercise.

Q: What problems should people pay attention to in diets?

A: Leftovers in the fridge. They should clean the fridge regularly, and not keep food too long.

Q: How are the hygienic habits of villagers?

A: They wash hand too careless. Especially men. And they don't pay attention to the cleaning of their underwear. They just wash them through water casually.

Q: What do you think about your health condition?

A: Not very satisfied. I feel nervous every day because of my job. But I'm satisfied with my body weight.

Q: Will you go to medical examination by yourself?

A: Once a year. Sometimes more. I don't have chronic diseases. I don't take supplements except for calcium pills. I drink milk every day.

Q: Do you carry out health promotion at daily time?

A: Often. People around me will listen.

Q: What kind of media that affected you most?

A: TV and internet.

Q: What do you think you should pay attention to?

A: Just relax in daily life.

Q: Do you have suggestions for us? What do you expect from this investigation?

A: I think we should pay more attention to hygienic habits and metal issues in countryside, not only the condition of eating habits and sports.

5. May 26th, 2013 Records of personal interviews in Zhoukoudian

Interviewee: Doctor of Shankou village

Q: What are the villagers' habits of eating?

A: They all know we should eat coarse cereals, flour and rice all. They cook them in different ways. We eat more meat than before, and it's not good to eat too much meat, so all of them try to eat less meat .

Q: What's the difference between the diet now and the before?

A: Before the reform and open people eat more coarse cereals and less flour and rice, but now the principle food is flour and rice. And sometimes people will eat millet and corn flour for a change. The economy growth and life amelioration brings the change. Now we have enough money to buy everything we want to eat. We can just eat cabbages and radishes, now we can eat tomatoes, potatoes, green peppers and cucumbers everyday.

Q: Do people in the city have a different diet from the villagers?

A: I don't think so, maybe we eat some edible wild herbs in addition in spring. And most of the villagers like food made from flour as principle food.

Q: Do the villagers like salty and fatty food like before?

A: Yes, but something changes. Before the reform and open, everyone only had 1250 grams of oil a year, but now a family of 4 persons needs 5000 grams of oil a month. Mostly the peanut oil and soybean oil. Now there are a lot of health promotions about the harm of take too much salt, the villagers pay a lot attention to this . Most of them control the amount of salt intake between 6 grams to 9 grams for one person. But about 40 percent of the villagers eat pickles, more than the people in the city. In my family, it also changes like that. We need a barrel of oil every four months, not too much. And we eat less coarse cereals than before obviously.

Q: Do the villagers eat snacks?

A: Only the children eat snacks and the adults seldom do. It's obvious that the villagers eat less fruits than the citizens. And we can only buy some common fruits.

Q: Do the villagers often go to the restaurant?

A: No, less than the citizens. They only go to the restaurant when the friends or relatives come.

Q: Do many villagers take health products?

A: No, only a few of villagers take them. And I don't advise them to take health products, too. Some villagers with special diseases drink medicinal liquor.

Q: Do the villagers pay attention to take exercise?

A: Yes, but not the same. The retired and the unemployed take more exercise than office workers. It's about one third of the villagers who have no job take exercise, mostly walk, the others take exercise with the exercise equipment.

Q: Do the villagers have good habits about personal hygiene?

A: Yes, firstly our village is cleaner than other villages and there are cleaners. Then the villagers also pay attention to personal hygiene, wash hands and clean the house often.

Q: Do the villagers have enough knowledge about healthy diet and life style? How do they learn health knowledge?

A: Yes, they know a lot of health knowledge, but seldom act as it . They learn health knowledge from TV mostly.

Q: Are there many villagers smoke?

A: Yes, there are, most of the smokers are men and the older. The young seldom smoke. They all know that smoking is harmful but seldom take action. The proportion of the smokers in the villagers is larger than that of the city. But it's lower than that of the generation of our parents for we have more health knowledge. The smokers seldom smoke in public.

Q: Are there many drinkers in the village?

A: Yes, more than that of before. The villagers have enough money to buy wine, and it's convenient. Most of the drinkers are men, but they seldom get drunk . They all know that drunkenness harms.

Q: Do the villagers know their health condition?

A: Yes, mostly do. But some villagers are afraid of physical examinations and don't know whether they have diseases or not. Most villagers take part in the free physical examinations, though not every year. And those with chronic diseases have medicine regularly.

Q: Are there many overweight villagers?

A: Yes, the overweight is more and more, but the proportion is the same with that of the city.

Q: Do the villagers have larger stress than before? And are there more psychopaths?

A: Yes, much larger than before. There are 2 psychopaths in our village, just the same with before.

Q: Do the villagers often communicate about health knowledge? How do they learn health knowledge?

A: Yes, when they learn something on TV like Yangshengtang, they will chat. They learn knowledge from TV, the clinic, and so on. Usually they learn something on TV, they will go to the clinic to ask the doctor and make sure it's right.

Q: How about the number of villagers with chronic?

A: The number is larger than before, especially patients with diabetes. It's because the villagers eat more and better food without enough exercise. I usually advise them to take less principle food and more vegetables. But they seldom pay attention.

Q: Are you satisfied with your health?

A: Yes, though I have hypertension, hyperlipidemia and diabetes, I take medicine regularly and the diseases are under control. I think I should do more exercise to keep health.

Q: What else we can do about health promotion?

A: I think people pay less attention to it and the way of promotion is too limited.

Q: What do you want to know by our investigation?

A: Nothing now, I know well.

6. May 26th, 2013 Records of personal interviews in Zhoukoudian

Interviewee: Director of Shankou village

Q: What are the eating habits of villagers in Shankou village?

A: The villagers eat pork more often than fish and chicken. The proportion of meat and vegetables the villagers eat is about 3 to 7.

Q: Do the villagers have preference on food? What about the principle food and snacks?

A: No, they don't. As for the principle food, they prefer food made from flour than rice. The young like snacks and our peer seldom eat snacks.

Q: Do the villagers often go to the restaurant?

A: At least twice a month. When the friends or relatives come, they will go out to eat.

Q: What about the health products?

A: Some of the old use health products. Some of them have health products sold by salesmen coming to our village, and the others make medicinal liquor with the ginseng and the medlar. People who drink medical liquor is more and more in recent ten years.

Q: Do the villagers eat a lot of pickles?

A: They do eat a lot and like salty food. 60% percent of the villagers who live in bungalows make pickles by themselves, and those who don't make pickles will buy some pickles. Though it's better than that of before, they still eat too much salt and oil.

Q: Is the diet of villagers who plant land different from that of villagers without land?

A: Mostly the former eat vegetables that they plant, the latter buy what they want .

Q: What's the difference between the diet now and that when you were young?

A: We can only eat seasonal vegetables when I was young. We can eat whatever we want now, especially after 2000.

Q: When do you think the village changed a lot?

A: The government appropriate funds to build new countryside since 2006. Then from 2008 the government takes afforestation seriously. And we plant trees, transform intertidal zone and equip the square with sports equipment.

Q: Why the villagers change their diet and life style?

A: We learn more health knowledge these years and our life is good enough to bear the changes. Every month we have 2 health talks about the harms of eat too much salt and oil at least. And there are more and more villagers go to dance on the square in the evening to keep health. Our parents were busying with farm work and take no exercise. Now our children and we have time to take exercise without much farm work. Most of the villagers go out for a walk, and the others run. The students were organized to run every day before, but now the activity is cancelled.

Q: Do most of the villagers smoke or drink?

A: The number of smokers is larger than before. And now some post 90 girls smoke, too. They smoke cigarettes packed and only some of the old smoke cigarettes made by themselves. Most of the drinkers drink cheap and inferior wine, and the drinkers are more and more. They all know it's bad to smoke or drink, but it's hard to quit.

Q: Do the villagers have good habits about personal hygiene?

A: Yes, most of the families have solar water heater, and it's convenient to wash hands or take a bath. But the air and water in the village is polluted.

Q: Do the villagers pay enough attention to their health?

A: Yes, we all watch the TV show YangShengtang to learn health knowledge, especially the old. But some blind actions are inescapable. 80-90% of the villagers take part in the free physical examinations and free drugs handing out. But not all the villagers take the drugs.

Q: How can the villagers learn health knowledge?

A: Mostly by TV, and we also benefit from health promotions and sales promotion of health products. The villagers also communicate a lot, especially the patients.

Q: Are there many villagers who are overweight or have chronic disease?

A: Yes. The number is just the same with that of the city. And the number started increasing from reform and open. The situation is not better since 2008, just that more and more villagers have physical examinations and know their diseases.

Q: Are you satisfied with your health status?

A: No, I have to take medicines everyday to treat hypertension and hyperlipidemia. Besides, I'm overweight. But I like eating meat, especially the fat. So actually I don't do any thing to control my weight. When I communicate with others, they will tell me to lose weight. But I never take action.

Q: Do you often test your blood pressure?

A: Yes, twice or three times a month, it's very convenient.

Q: what do you think you should do to keep health?

A: I have enough knowledge but I seldom take action. Sometimes I went on a diet , but ate more after the diet .

Q: Do you think the old have a lot of pressure?

A: No, but the young is under great pressure. It's about marriage, work and the education of the child.

Q: What do you want to know from our investigation?

A: I want to know how the others improve their life style and keep health successfully. So I can take action.

7. May 26th, 2013 Records of personal interviews in Zhoukoudian Interviewee: Officer in charge of Township health center

Q: Are you local? Do people in Fangshan have some special eating habits?

A: No, I came to Zhoukoudian in 2006 and work as a medical worker. As for eating habits, I think different family has different habits, and most families pay attention to the balance of diet. I think the income and knowledge affect eating habits.

Q: What's the preference for food of local people? What about the principle food?

A: The local like salty food and have pickles every meal. The principle food is rice and food made from flour, just as the tradition of north.

Q: What are the changes in the local diet during these years?

A: Just be better after the 80s. It's more abundant with the improvement in economy and traffic. We can buy everything we want. But we can only buy seasonal vegetables and eat meat on holiday before.

Q: Do local people eat snacks? Do they go to the restaurant often?

A: The children like snacks, such as crisps, biscuit and milk drinks. And the students prefer sodas, especially coke. People will go to the restaurant on holidays and when friends come. Especially the people in town.

Q: What about the tonic?

A: Most people don't take tonics. Only some of the old will.

Q: How about the local's attitude to the salt and oil?

A: The local like salty and fatty food, but their attitude change recent years to keep health.

They gain health knowledge and begin to change their action.

Q: Do healthy publicity campaigns affect the local?

A: Of course, but the affected people is too limited. Only the old and the retired care about the publicity. The students and the office workers get knowledge on TV or net.

Q: What affects the local diet except economy?

A: They pay more attention to their health.

Q: Is it convenient to shop in the village?

A: Yes. The villagers can buy kinds of fruits, vegetables and principle food . And most are transported from other places.

Q: Do most villagers take exercise? What's the influence?

A: I think the percent is not high. Only the old and children take exercise, and most of the office workers do not. There are commissioners who organize the exercise activities in every village. And more and more people join the battalion. The upturn in the economy is the main influence. The government builds many sports square so it's convenient for people to take exercise. People also are shocked by the diseases or deaths of their peer group.

Q: How about the villagers who smoke or drink alcohol?

A: Most of the smoker and drinkers are men. Especially the elderly people. People all know it's bad to health to smoke and drink, but they don't change.

Q: Do the villagers have good hygienic habits?

A: Yes. They pay attention to the environment and personal hygiene. But there are still some villagers who use aqua. People pursue the health and they gain health knowledge actively.

Q: What the villagers will do when they get sick? Do they have physical examinations every year?

A: Most of the villagers will go to the clinic or hospital, the left will bear it and wait to recovery. There is a policy that the ones who older than 60 with the old-age security and the ones who older than 65 without the old-age security have the opportunity for a free physical examinations every year. And over 60% of them take part in. And the left prefers to have physical examinations in a more advanced hospital.

Q: Are there many villagers who are overweight?

A: The number is larger. Most of the overweight are the elderly. They also know that too fat is not good, but they don't pay enough attention to it .

Q: How about the villagers' compliance with the free medicine? And who can have the free medicine?

A: Over 90% of them ensure compliance with the medicine. The group who have the chance are selected from the health screening on 2008, and some of them are brought into with diagnose of the hospital. As for the people who can't have free medicine, they also go to the doctor and take medicine actively for 95% of the cost can be reimbursed.

Q: Do people know the side effects of the medicine? Do they have some health products at the same time?

A: Yes, they know. The doctors who give them medicine will tell them. Most of them do not have health products.

Q: How can people learn knowledge about chronic diseases?

A: By TV, Internet and some health promotions and so on. Especially the health promotions. About one third of the villagers are benefitted from our promotions.

Q: How do you think the health promotions? How can we do better?

A: The biggest problem is that we don't have enough human resources and funds. We need the support from the local government. Sometimes we don't have audience, it's very bad. I know it's hard to do it well, and the government should play a great role in the system. We should affect the people from their young age. And let them have good habits of diet and sports.

Q: How do you think your health status?

A: I'm satisfied with my condition, although I suffer from allergic rhinitis now and then. I will go to the hospital and get proper treatment. I pay attention to my weight and it keeps the same in the last ten years.

Q: Do you have physical examinations offered by your work unit every year?

A: No, but we can have one anytime for there are equipments in my work unit. I plan to have an examination every year for one of my friends who is 40 get a heart bracket last year, and it shocked me. I pay attention to my diet and sports, and have less salty and fatty food.

Q: How do you think the mental health of the local?

A: People pay less attention to mental health than physical health. People's kinds of pressure are increasing with the development of economy, especially work-related stress. Now there are more and more patients with depression.

Q: Is there any important event or policy about health promotions these years?

A: From last year the government of Fangshan started building demonstration area of chronic prevention and control. We have a lot of work to do, and we face great challenges. Besides the 7.21 flood of last year draws people's attention to epidemic prevention. We finish the epidemic prevention successfully and people know what to do after a flood.

Q: Do you have any advices about our investigation?

A: I think the questions in the questionnaire are the more detailed the better. You can design some questions about mental health. Besides, maybe you can offer a physical examination with the questionnaire, and the villagers like free examinations.

資料 3



北京大学公共卫生学院



北京市房山区疾病预防控制中心 (CDC)



房山 CDC 職員食堂に掲示された NCD 予防ポスター



房山 CDC 職員



房山 CDC・北京大学チームとの研究打合せ



30 歳以下男女に対するフォーカスグループインタビュー

厚生労働科学研究費補助金（地球規模保健課題推進研究事業）

分担研究報告書

東アジア、オセアニアにおける生活習慣病対策推進のための学際的研究
—パラオ疫学調査—

研究分担者 八谷 寛 藤田保健衛生大学医学部教授

研究要旨

パラオにおいて、18-24歳の若年層を対象に生活習慣病に関するアンケート調査、身体計測、血圧・脂質・血糖測定を実施した。調査はパラオコミュニティカレッジ学生、公務員ならびに企業従業者を主たる対象とし、一部地域へは出張調査を実施した。1か月の調査期間中に男性173名、女性180名、計353名のデータを得た。アンケート調査から、80%の男性、61%の女性がタバコ製品を現在使用していること、67%の男性、36%の女性に飲酒習慣があることが判明した。また、BMIが30 kg/m²以上の肥満は男女とも約20%に、高血圧が男性の21%、女性の6%に認められた。今後、肥満および肥満を基盤とするメタボリックシンドローム、高血圧に関連する生活習慣要因に関する探索的分析を実施する。

A. 研究目的

パラオで生活習慣病に関して実施されている既存調査から抜け落ちている 18-24 歳の若年者に対して生活習慣病の実態調査および生活習慣に関するアンケート調査を実施することを目的とした。

B. 研究方法

アンケートおよび身体計測等の調査は平成 25 年 10 月 4 日から開始され、訪問中の平成 25 年 11 月 4 日に終了した。本分担者は 11 月 3 日夜から 9 日未明までパラオを訪問し、以下に示した打ち合わせ・視察・確認等を実施した。

4 日：パラオ保健省を訪問し、地域における出張調査等を担当した生活習慣病部門スタッフと懇談（写真 2）。パラオコミュニティカレッジ（PCC）を訪問し、PCC 内に設営された研究クリニックを視察（写真 3-5）。さらに、PCC 内に保管されたアンケートのチェック、データ入力スタッフとの打ち合わせを実施。パラオリサーチインスティテュート（PRI）を訪問し、生活習慣病発症・有病に関係する生活習慣に関する社会的・質的調査の進捗状況について意見交換（写真 6）、パラオ保健大臣訪問。

5 日：パラオ国立病院外来、保健省コミュニティヘルスセンター訪問（写真 7-9）

6 日：台風のためパラオ保健省における「CVD Prevention Strategies: Cardiovascular Risk Prediction and Population Attributable Fraction」講演（講師：八谷寛）と「パラオにおける生活習慣病予防に関する意見交換会」中止。ただし、同内容をパラオ保健省研究パートナーである Dr. Travis Techong Shingeo-Sungino と実施。

7 日：台風のためペリリュー島コミュニティヘルスセンター訪問予定キャンセル。

8 日：PRI を訪問し、疫学調査の進捗状況の報告と社会的調査について再度の打ち合わせ。

（倫理面への配慮）

調査プロトコルはパラオ保健省、名古屋大

学、大阪大学の各倫理審査委員会において審査・承認された。調査対象者には参加は自発的なものであり、義務でないことを説明し、書面による同意を得た。調査時のプライバシー保護には十分配慮し、解析データ匿名化等のデータ管理もプロトコルに従い厳密に行っている。

C. 研究結果および考察

Table 1. 期間別調査実施数

期間	調査数（人）
10/4~10/10	172
10/11~10/17	61
10/18~10/23	63
10/25~11/4	57

上表 Table 1 に示した通り、調査数は開始直後に多く、残る期間はやや低調であった。18-24 歳の年齢層は PCC 学生、コロール島内で勤労、地域在住のいずれかが考えられ、総数は約 900 人と想定されていた。参加者には 10 米ドル相当の謝礼を渡し、PCC 内のクリニックだけでなく、主要な雇用先や地域へと出張調査を実施するなど最大限努力した。また写真 1 に示す通り、関心も高かったが、1/3 強の参加率となった。

次に、Table 2 に男女別危険因子保有割合（%）を示した。BMI が 30 kg/m²以上の肥満は男女とも 20%以上、25 kg/m²以上の過体重（日本基準で肥満）は男性 44%、女性 53%に上った。収縮期血圧が 140 mmHg 以上または拡張期血圧 90 mmHg 以上の高血圧は男性の 21%、女性の 6%に認められた。糖・脂質代謝異常を示した者の割合は血圧に比し、低かった。

67%の男性、36%の女性に飲酒習慣があった。また、80%の男性、61%の女性がタバコ製品を現在使用していた。タバコに関しては紙巻タバコよりナツメヤシの実にタバコを混入して使う噛みタバコの使用者の割合が高かった。

本調査により、肥満・過体重者の割合が約 5 割と高いことが確認された。その要因には低身体活動と写真 10 に示すような食生活の影響が考えられるが、今後、生活習慣要因との関連性解析を実施し、詳細について明らかにしたい。さらに、社会的調

査結果を合わせることにより、肥満の発症・有病に関わる行動要因を明らかにし、有効な予防対策に繋げる必要があると言える。なお、肥満の有病率の高さにも拘わらず糖・脂質代謝異常者割合が低い原因には、調査対象者の若年齢が想定された。中年期になって、これらの異常が顕在化し、疾病負担が増大する前にどのような介入を実施することが有用かを、本研究を通して明らかにしていくことが極めて重要であると考えられた。

		Male (n=173)	Female (n=180)
Body mass index (kg/m ²)	<=18.5	6	6
	18.5- <25	46	42
	25- <30	24	28
	>=30	20	23
	missing	3	2
Blood pressure	normal	77	92
	hypertensive	21	6
	missing	2	2
Glucose (mg/dl)	<110	85	91
	110-125	3	7
	>=126	6	1
	missing	5	2
Triglycerides (mg/dl)	<150	87	89
	150-199	3	4
	>=200	3	3
	missing	6	2
Total cholesterol (mg/dl)	<160	13	16
	160-199	62	60
	200-239	18	20
	>=240	1	1
	missing	6	3
HDL cholesterol (mg/dl)	<40	2	1
	>=40	92	96
	missing	6	3
Alcohol drinking	current drinker	67	36
	ex-drinker	26	38
	non-drinker	7	26
Cigarette smoking	current smoker	41	12
	ex-smoker	36	34
	non-smoker	23	54
Betel nut and tobacco chewing	current chewer	62	54
	non-chewer	38	46
Tobacco product use	current user	80	61
	non-user	20	39
HDL indicates high density lipoprotein.			
Hypertension was defined as systolic blood pressure of 140 mmHg or over or diastolic blood pressure of 9- mmHg or over.			

D. 健康危険情報

研究代表者による総括研究報告書参照のこと

E. 研究発表

1. 論文発表

- (1) Hilawe, E.H., Yatsuya, H., Kawaguchi, L., and Aoyama, A. Differences by sex in the prevalence of diabetes mellitus, impaired fasting glycaemia and impaired glucose tolerance in sub-Saharan Africa: a systematic review and meta-analysis. *Bulletin of the World Health Organization* 91 (9): 671–682 (2013).
- (2) Yan, Z., Kawazoe, N., Hilawe, E.H., Chiang, C., Li, Y., Yatsuya, H., and Aoyama, A. Patterns of non-communicable disease metabolic risk factors of the countries in East Asia, South-East Asia and Oceania. *Global Health Action submitted*

2. 学会発表等

- (1) 野田茉友子、江啓発、上村真由、張燕、川副延生、李媛英、八谷寛、青山温子：オセアニア島嶼地域における野菜と果物の摂取状況およびその男女差。第32回日本国際保健医療学会西日本地方会大会、長久手、愛知 (2014)。
- (2) 松井響子、江啓発、上村真由、張燕、川副延生、李媛英、八谷寛、青山温子：パラオにおける若年層の心理的ディストレス。第32回日本国際保健医療学会西日本地方会大会、長久手、愛知 (2014)。

F. 知的財産権の出願・登録状況

特記すべきものなし

(資料)

 <p>Study launched to take a closer look at NCD factors in Palau</p>	<p>(写真 1) 調査実施に先立ち「Island Times」紙で報道される。NCD は非感染性疾患のことで生活習慣病をさす。</p>		<p>(写真 6) PRI で社会学調査を担当する Ms. Tina Rehuher Marugg と Ms. Julie Tellei</p>
	<p>(写真 2) 保健省の生活習慣病部門スタッフ、中央は Dr. Shingeo</p>		<p>(写真 7) コロールにある Community Health center は母子保健に特化。性行為感染症の迅速診断や治療が可能。</p>
	<p>(写真 3) PCC 内に設置された調査クリニックで血圧測定場所を示すサイン</p>		<p>(写真 8) パベルダオブ島東部コミュニティヘルスセンター内に掲示してあるタバコの害を示すポスター</p>
	<p>(写真 4) PCC 内に設置されたアンケートに関するインタビューの場所を示すサイン (プライバシー保護のため別室を用意)</p>		<p>(写真 9) パベルダオブ島西部コミュニティヘルスセンターに勤務する看護師。看護師も肥満である。</p>
	<p>(写真 5) PCC 内に設置された血液検査場所</p>		<p>(写真 10) スーパーマーケットで販売されているアイスクリーム。スーパーマーケットの品揃えは米国流。</p>

厚生労働科学研究費補助金（地球規模保健課題推進研究事業）

分担研究報告書

東アジア、オセアニアにおける生活習慣病対策推進のための学際的研究
—パラオ疫学調査—

研究分担者 江 啓発 名古屋大学大学院医学系研究科助教

研究要旨

パラオの成人若年層における肥満などの生活習慣病に関連したリスク要因を把握するには、包括的な調査が欠かせない。本研究ではパラオに在住する18～24歳の成人を対象とし研究調査を行った。有意抽出手法（自主的参加）により、356名の男女が本調査に参加した。ほぼ半数（48.9%）の参加者は過体重および肥満であり、全体の13.5%は高血圧症であることが明らかになった。血液検査により、糖尿病（空腹血糖値 ≥ 126 mg/dL）は3.5%、高中性脂肪血症は3.5%、高コレステロール血症は20.3%、HDLコレステロールが40 mg/dL以下の者は1.2%という結果が示された。行動的リスク要因については、現喫煙者（紙巻タバコ）は35.4%、さらに（噛みタバコなどを含む）タバコ製品全般の現使用者は70.2%に上った。野菜果物をほぼ摂取しない（一日平均摂取量が1サービング未満）対象者は24.1%であり、平均的に一日5サービング以上摂取している者は9.2%である。勤務中、通勤・通学などの移動時間および余暇において身体活動がない者は20%近くであることが判明した。本研究調査の結果は、パラオの成人若年層および国全体の生活習慣病リスク要因の基礎データとしてその予防対策の一助になると期待できる。

A. 研究目的

本研究の目的は、パラオの生活習慣病に関連したリスク要因の研究調査においてこれまで調査対象年齢層とされたことのない 18～24 歳の一般住民の現状を把握することである。包括的な調査を通し、生活習慣病予防対策に必要な不可欠な基礎データを提供するとともに、成人若年層に特有なリスク要因などを検討する。

B. 研究方法

パラオにおける研究調査の日程：

平成 25 年度は、あわせて 4 回にわたり、パラオに渡航した。滞在中は、主に、パラオ側の中心的な共同研究者 Dr. Techong Singeo-Sungino と研究調査を進めた。具体的な内容については、以下の通りである。

第 1 回、調査の準備作業

平成 25 年 8 月 4 日～8 月 10 日

- (1) 日本側の進捗報告
- (2) 調査に必要な書類提出や手続き
- (3) 調査の使用場所（会場など）の打診
- (4) 現地にて調達できる資材の確認
- (5) 調査スタッフの確保
- (6) 学生など調査協力者の確認
- (7) 調査協力機関などの訪問
- (8) 研究費使用などの再確認
- (9) その他打ち合わせ

第 2 回、機材搬送&本調査開始

平成 25 年 10 月 1 日～10 月 13 日

- (1) 日本で調達した血液検査機器とその試薬、消耗品などの搬送作業
- (2) 調査用質問票の最終確認
- (3) 調査スタッフの配置
- (3) 調査スタッフのトレーニング
- (4) 調査会場内の移動などの確認
- (5) 調査参加を呼びかけるための宣伝
- (6) 本調査実施時の監督

- (7) 調査実施の中間微調整
- (8) 調査スタッフとの反省会など

第 3 回、本調査終了&データの回収
平成 25 年 11 月 4 日～11 月 11 日

- (1) データ保存管理についての確認
- (2) データ入力の確認
- (3) データの回収作業
- (4) 調査終了後の資材処理
- (5) 検査機器など備品の回収
- (6) 共同研究者の日本への招聘調整

第 4 回、データ解析および論文作成
平成 26 年 2 月 9 日～2 月 16 日

- (1) 調査の元データの再確認
- (2) 発表論文の内容調整
- (3) 最終年度への調整
- (4) その他打ち合わせ

本研究調査では、自主的参加による定点調査を行った。会場はパラオ・コロールの中心地に位置したパラオ・コミュニティカレッジ（PCC）のキャンパス内に決定した。自主的参加のため、参加者全員に 10 ドル相当の携帯電話プリペイドカードを与え、調査協力の参加意識を高めた。本調査開始から調査期間中にわたり、ポスターの掲示、チラシの配布、マスメディア報道、インターネットの掲示板・SNS などを利用し、活動宣伝および調査への参加協力を呼びかけた。

本調査の実施については、世界保健機関による生活習慣病リスク要因調査（WHO STEPS）の基準調査方法に準じ、下記通り 3 つの枠（ステップ）に分け、行った。

ステップ 1. 構造化質問表による面接調査：個人の基礎データについては、年齢、教育レベル、結婚状況、世帯構造、収入などが含まれる。質問票全体の主な調査項目は行動上のリスク要因に関する内容であった。調査項目を以下に示す。(1) 食事に関する項目：野菜果物の摂取量・頻度、肉類、魚介類、乳製

品、加工肉（缶詰など）の摂取量・頻度、食用油の使用種類、外食の頻度など（2）アルコールの摂取量・頻度など（3）タバコ（噛みタバコを含む）の使用状況（4）違法薬物（大麻などの麻薬）の使用（5）睡眠の質や時間など（6）メンタルヘルス（K6 質問表項目）および自殺念慮（7）勤務上、通学などの移動時間、余暇における身体活動（8）その他。

ステップ 2. 身体計測：（1）身長、体重（2）腹囲、臀囲（3）血圧の測定。

ステップ 3. 血液検査：（1）空腹血糖値（2）血中脂質、すなわち中性脂肪、総コレステロール、HDL コレステロールの測定。

（倫理面への配慮）

本研究プロジェクト全体の研究調査計画書はパラオ保健省、名古屋大学医学部、大阪大学の各倫理審査委員会の倫理審査を受け、承認および調査実行の許可を取得した。調査時には、調査の対象者に研究内容及び、研究目的、個人情報取り扱いについて十分な説明を行い、インフォームドコンセントを得た上で調査を実施した。調査時も対象者の心理的・肉体的・時間的負担に配慮しながら調査を行った。調査により得られた個人情報を含めたデータの取り扱いには細心の注意を払い、データ解析には匿名化したデータを用いた。また、回収した元の質問票などは、ロックのかかった場所にて厳密に保管されている。

C. 研究結果

最新の国勢調査によると、パラオ国内に在住する 18～24 歳の成人若年層の総人口は 1,681（男性：888、女性：793）である。当初の研究計画では、そのおよそ半数の 800 名を対象者としていた。PCC の現役学生のうち、473 名が調査対象年齢層の 18～24 歳

に該当した。本調査を終え、合計 356 名が調査に参加し、研究計画の想定した 800 名の半数に近い結果であった。参加者全員にはステップ 1 の面接調査とステップ 2 の身体計測に協力してもらった。そのうちの 13 名（3.7%）がステップ 3 の血液検査に参加しなかった。血液検査に参加するには（空腹血糖値などを測定するため）、8 時間以上の空腹が必要とされた。ほとんどの参加者は初日の面接調査や身体計測を終え、夜 8～10 時以後は絶食し、翌日の朝に血液検査を受けた。侵襲的検査であり、長い空腹時間や勤務時間などの難点により 13 名が調査の全段階を完成できなかったものと考えられる。

Table 1 に示した通り、対象者のほぼ半数（48.9%）が過体重および肥満（BMI \geq 25 kg/m²）であることが明らかになった。高血圧（収縮期血圧 \geq 140 mm Hg もしくは拡張期血圧 \geq 90 mm Hg）の症状を示した男性（21.2%）は女性（6.1%）より多く、全対象者の 13.5%が高値を示したことが分かった。12 名（3.5%）の参加者が糖尿病（空腹血糖値 \geq 126 mg/dL）と診断された。血中脂質の結果については、7.6%が高中性脂肪血症（ \geq 150 mg/dL）であり、20.9%が高い総コレステロール（ \geq 200 mg/dL）が検出された。

Table 2 は行動的リスク要因の調査結果である。過去 30 日以内、飲酒した者は半数を超えた 51.1%である。現喫煙者（紙巻タバコ）は 26.1%であり、周辺国と比べ高くない数字であるが、全てのタバコ製品で見ると非常に高い割合（70.2%）の者が現使用者という調査結果であった。また、野菜果物をほぼ摂取しない（一日平均摂取量が 1 サービング未満）対象者は 24.1%であり、平均的に一日 5 サービング以上摂取している者は 9.2%である。勤務、また通勤・通学などの移動時間および余暇において身体活動がない者は 20%に近いことが判明した。

本研究調査の対象者は高い割合でリスク要因を示した。18～24 歳の若い年齢層であるため、心血管・脳血管疾病などの発症はまだ見られなかったが、介入がない場合、今後、