

Cooperation of nutrition education and research in Vietnam

Shigeru Yamamoto, RD, Ph.D.

**Professor of International Nutrition,
Jumonji University Graduate school, Saitama, Japan**

We have been cooperating nutrition education and research in Vietnam since 1986 for almost 35 years.

1986年琉球大学招聘 ベトナム国立栄養研究所2代目所長

Dr. Khoi (写真左 2015年撮影)国立栄養研究所副所長 Dr. Kim Lien(写真右 2010年撮影)





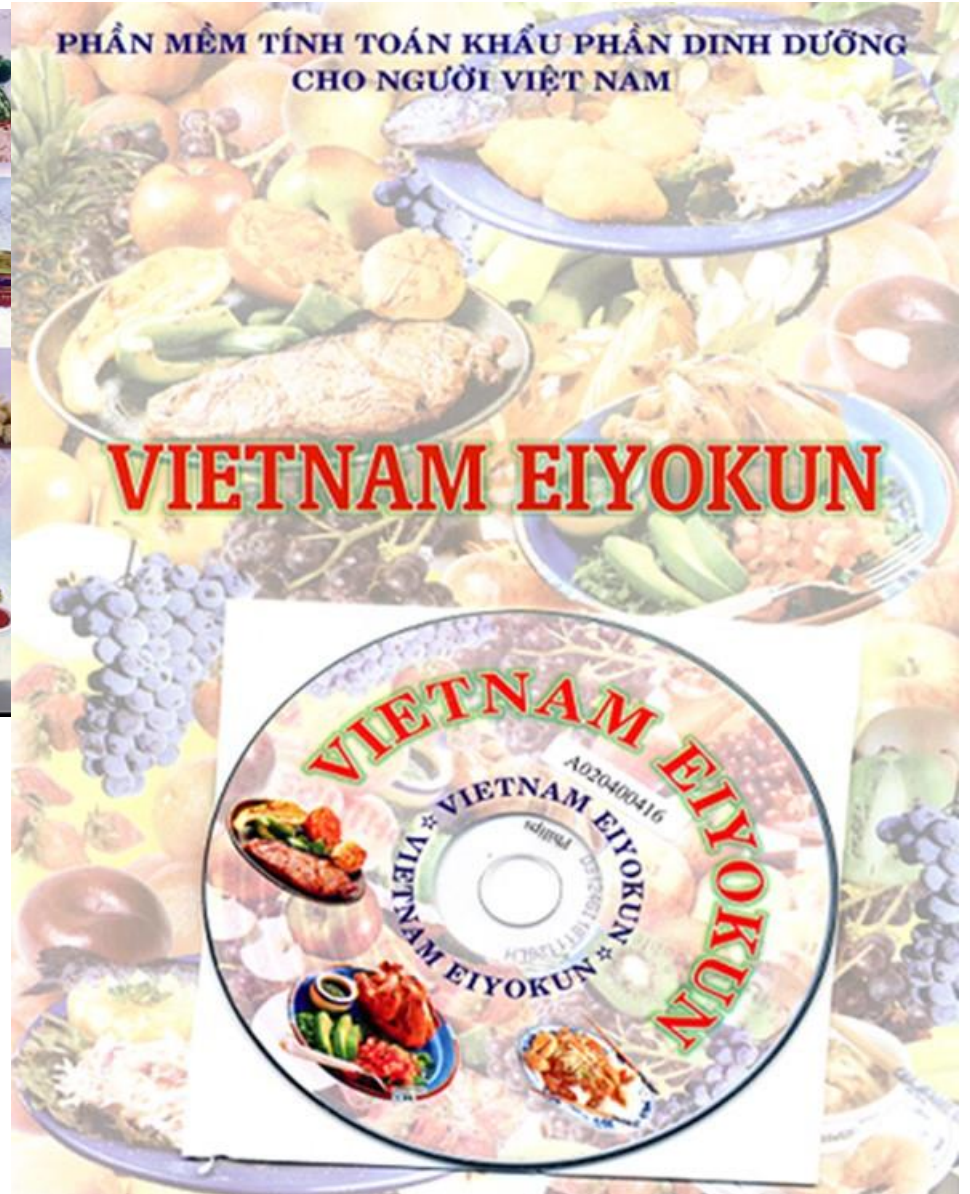
Study on water supply system on health in 2004 (4施設を寄付)



- **1987:** I invited the first Ph.D. student from HCM-NC.
- Since then I have directed more than 20 graduate students from Vietnam (徳島大学時代).



Publications of the first Vietnam food composition table, portion size book and Nutrition software with cooperation of Japanese. ベトナム初の食品成分表、出来上がり食品400種類の栄養成分、栄養計算ソフトの開発 ホーチミン栄養研究所副所長Dr.Minh Hanh 徳島大学博士課程時代に作成





In the office of Dr. Khan, Ministry of Health March 6, 2009

(3代栄養研究所所長、その後、保健省高等教育局長になり、ハノイ医科大学に同国初の栄養学課程を設立、下右から現(2019年)国立栄養研究所学校給食部部长Dr. Nhun, 食品安全部部长Dr. Hien、お茶大の学生2名) 全員、大学院で学位指導をしました。

Award of Minister of Health for the contribution to health of Vietnamese Nov 20, 2010
厚生労働省大臣賞受賞、山本の左男性2代目国立栄養研究所所長、右女性4代目所長、
山本より左二人目女性厚生労働省副大臣





Vietnam country background

Population (2015): 91.7m



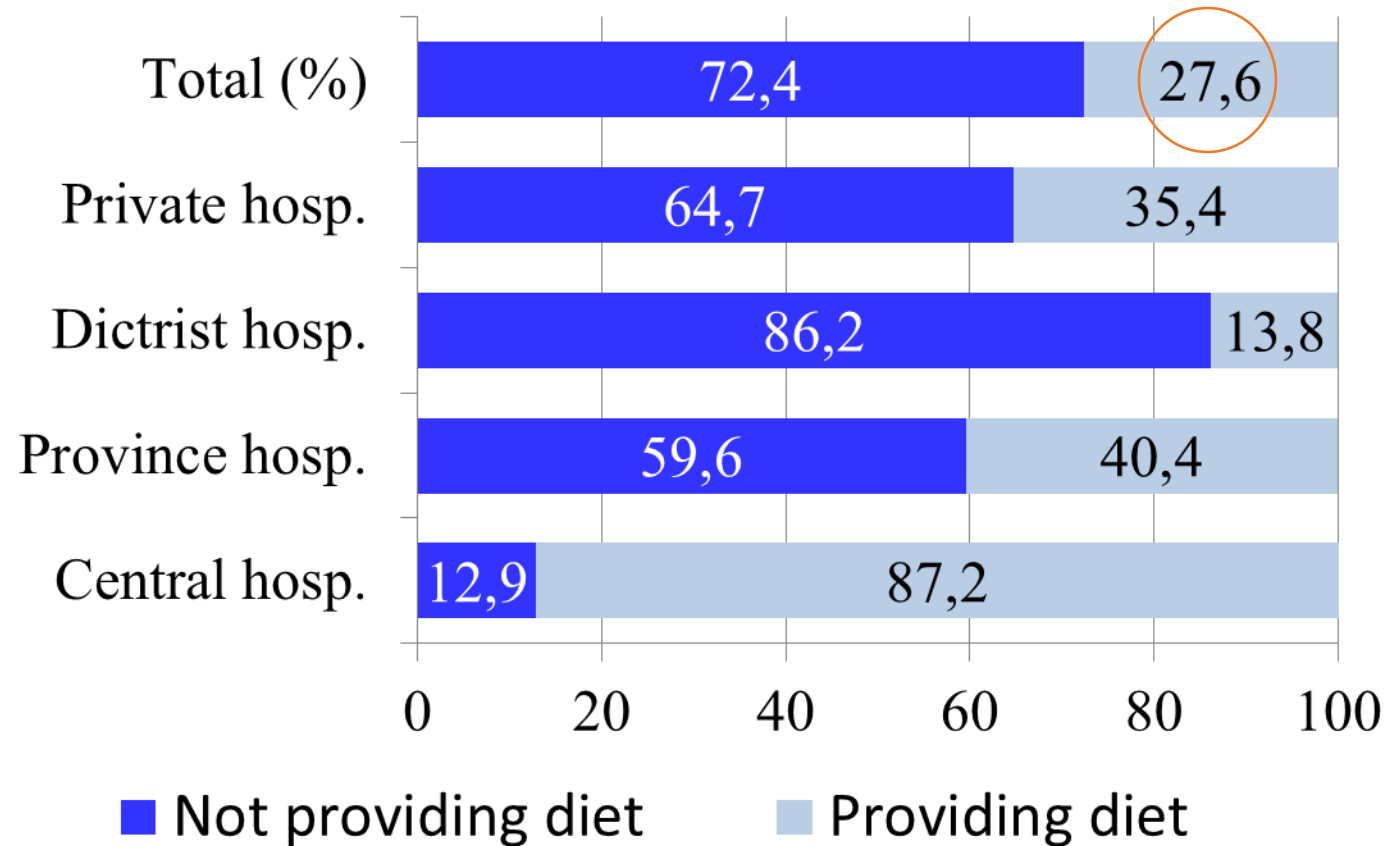
Health Facilities and beds

Government section	Hospital	Beds
Central Hos.	48	31.777
- General hospitals	20	20.311
- Special hospitals	20	9.065
Local Hos.	12.750	242.416
Total	13.725	291.975



SITUATION OF CLINICAL NUTRITION IN VIETNAM

- **Providing diet: only 27,6% of the hospitals provided the suitable diets for patients**

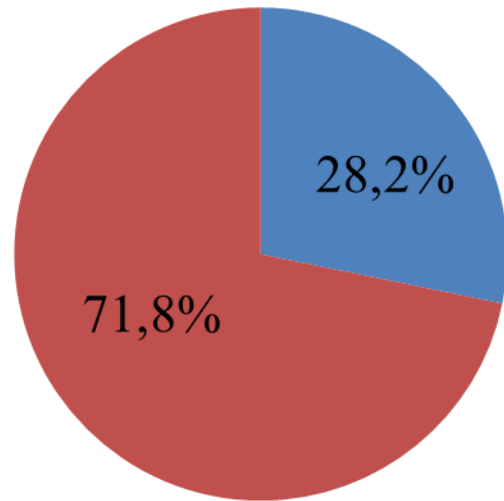


Resource: Ministry of health report, June 2017



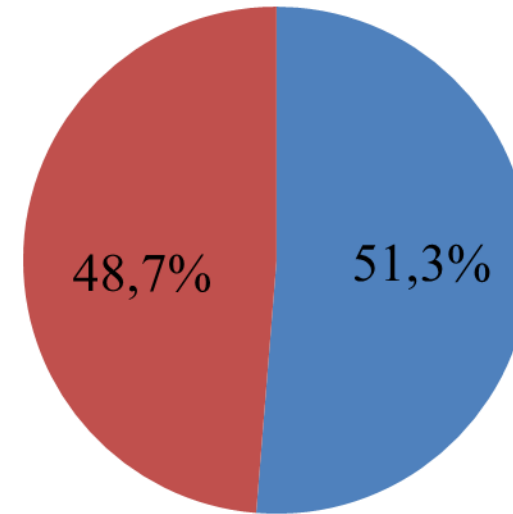
Nutritional status before and after operation

PRE-OPERATION



■ Malnourished ■ Nourished

POST-OPERATION



■ Malnourished ■ Nourished

BMI pre and post operation

Hanoi Medical University started to think the necessity of dietitian



At Ochanomizu University in Tokyo

Oct 5, 2010

We invited the rector and two other instructors from Hanoi Medical University and Vietnam National Institute of Nutrition



LỄ KHAI GIẢNG
NGÀNH ĐÀO TẠO CỬ NHÂN DINH DƯỠNG

OPENING CEREMONY
OF NUTRITION BACHELOR COURSE

Hanoi, October 2nd 2013



The first Nutrition and Dietetics students after the entrance ceremony in Sept 2013



Academic agreement of 2 Vietnamese and 3 Japanese Institutions, March 24, 2014



ACADEMIC EXCHANGE AGREEMENT FOR NUTRITION EDUCATION AT HANOI MEDICAL UNIVERSITY, VIETNAM

Jumonji University, Kanagawa University of Human Services and the Japan Dietetic Association, JAPAN (JAPANESE INSTITUTIONS) and Hanoi Medical University and National Institute of Nutrition, VIETNAM, (VIETNAMESE INSTITUTIONS) hereby conclude this academic exchange agreement, upon the principles of equality and reciprocity, to improve the quality of education and research at the institutions, especially through nutrition education at Hanoi Medical University, and to promote friendship between JAPAN and VIETNAM.

1. The five JAPANESE AND VIETNAMESE INSTITUTIONS will develop cooperation in the following areas:
 - 1) Exchange of students.
 - 2) Exchange of faculty members.
 - 3) Implementation of collaborative research.
 - 4) Exchange of academic publications and other academic and cultural information.
 - 5) Other appropriate exchanges in research and education recognized by the five institutions.
2. The above-mentioned activities will be carried out after mutual consultation among the five institutions.
3. This agreement shall come into effect upon signing by the five institutions and shall be valid for a period of four years from the date of its signing. This agreement may be extended for subsequent years beyond its original date of expiration if no proposal for amendment and/or termination is provided by the institutions.
4. Disagreements upon the interpretation of this agreement should be negotiated and solved through efforts made by both parties.
5. Amendment and/or termination of this agreement should be made by written notice. Any of the institutions may modify and/or terminate this agreement by giving one year prior written notice to the other institutions.

This agreement has been made in quintuple in English and has been signed by each of the representatives.

March 24, 2014

President of Jumonji University

Kaoru Yokosuka *Kaoru Yokosuka*

President of Kanagawa University of Human Services

Teiji Nakamura *Teiji Nakamura*

President of the Japan Dietetic Association

Tatsushi Komatsu *Tatsushi Komatsu*

President of Hanoi Medical University

Nguyen Duc Hinh *Nguyen Duc Hinh*

Director of Vietnam National Institute of Nutrition

Le Danh Tuyen *Le Danh Tuyen*

Vice President of Hanoi Medical University

Nguyen Huu Tu *Nguyen Huu Tu*
(by procreation signature)

Curriculum

Theory 69 + Practice 26 + thesis 10 = Total 105 credits + 500 hours internship

Theory 1 credit 45 min x 15 times, Practice 1 credit 90 min x 15 times)

1st year: Theory 29, Practice 10, total 39 (HMU offers)

2nd & 3rd year: Theory 40, Practice 16 Total 56 (theory mainly by Japanese, Practice mainly by Vietnamese, Practice training in Japan for some Vietnam instructors)

- **Basic Nutrition (include DRIs) Theory 10, Practice 4 credits (including food science)**
- **Nutrition Biochemistry Theory 2 credits, Practice 2 credits together with Nutrition Physiology**
- **Nutritional Physiology Theory 2 credits, Practice together with Nutritional Biochemistry**
- **Food Science (including food and cooking chemistry) Theory 4 credits, Practice together Basic Nutrition**
- **Food Sanitation Theory 4 credits, Practice 2 credits.**
- **Community Nutrition Theory 4 credits, Practice 4 credits.**
- **Nutrition Therapy (including nutrition education and cooking) Theory 8 credits, Practice 4 credits**

4th year (Internship 500 hours, thesis 10 credits (HMU offers)

- **Internship training total more than 500 hours at hospitals, communities, schools, etc.**
- **Research for the graduation thesis. Students will study under a supervisor every day other than internship training. Practice 10 credits**

Month	8/2014	9	10	11	12	01/2015	02	3	4	5	6	7	8			
From day to day	11 18 25	1 8 15 22	29 6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	2 9 16 23	2 9 16 23 30	6 13 20 27	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24			
Weeks	1 2 3	4 5 6 7	8 9 10 11 12 13 14 15 16	17 18 19 20 21 22 23 24 25 26	27 28 29 30 31	32 33 34 35 36 37	38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55									
Monday	AM	Foreign language				Psychology and Medical Ethnic										
	PM	Biochemical practise				Parasite										
Tuesday	AM	Environment Health			Basic Nutrition	Nutrition and Physical Activity	Patho		Parasite	Pathophysiology	Science Research Method	Food science and Nutrition	Independence Holiday and International Labour Holiday	Community Nutrition and Social-Cultural	Lifecycle Nutrition	Community Practise
	PM	Ho Chi Minh Ideology														
Wed	AM	Microbiology practise														
	PM	Biochemical														
Thurs	AM	Environment Health														
	PM	Health education and Promote				Exercise Medical										
Fri	AM	Microbiology			Probability- Biostatistics											
	PM	Health education and Promote				Psychology and Medical Ethnic		Parasite Practise								

We invited about 10 HMU students every year. They visited elementary schools and hospitals to observe the dietary managements.



Practice of Nutritional Biochemistry



Practice of Clinical Nutrition





Lecture by Japanese professor in 2015

Donated instruments



The first graduation ceremony June, 2017





TRƯỜNG ĐẠI HỌC Y HÀ NỘI
VIỆN ĐÀO TẠO Y HỌC DỰ PHÒNG VÀ Y TẾ CÔNG CỘNG

Asian Nutrition and Food Culture
Research Center



PHÒNG TIÊM CHỨNG ?

PHÒNG KHÁM

ĐC: Tầng 1 nhà A7

ĐT: 024 6259 7231



ハノイ医科大学 アジアの栄養食文化研究室
(十文字学園女子大学)2018年

**Academic agreement of Nam Dinh University of Nursing, Vietnam NIN and 3 Japanese Institutions in 2018 for the education of newly established dietetic course
ナムディン看護との交流協定調印式典と第一期栄養学課程学生 2018年**



Cooperation of researches

Sustainable Approach to Preventing Osteoporosis in Vietnamese



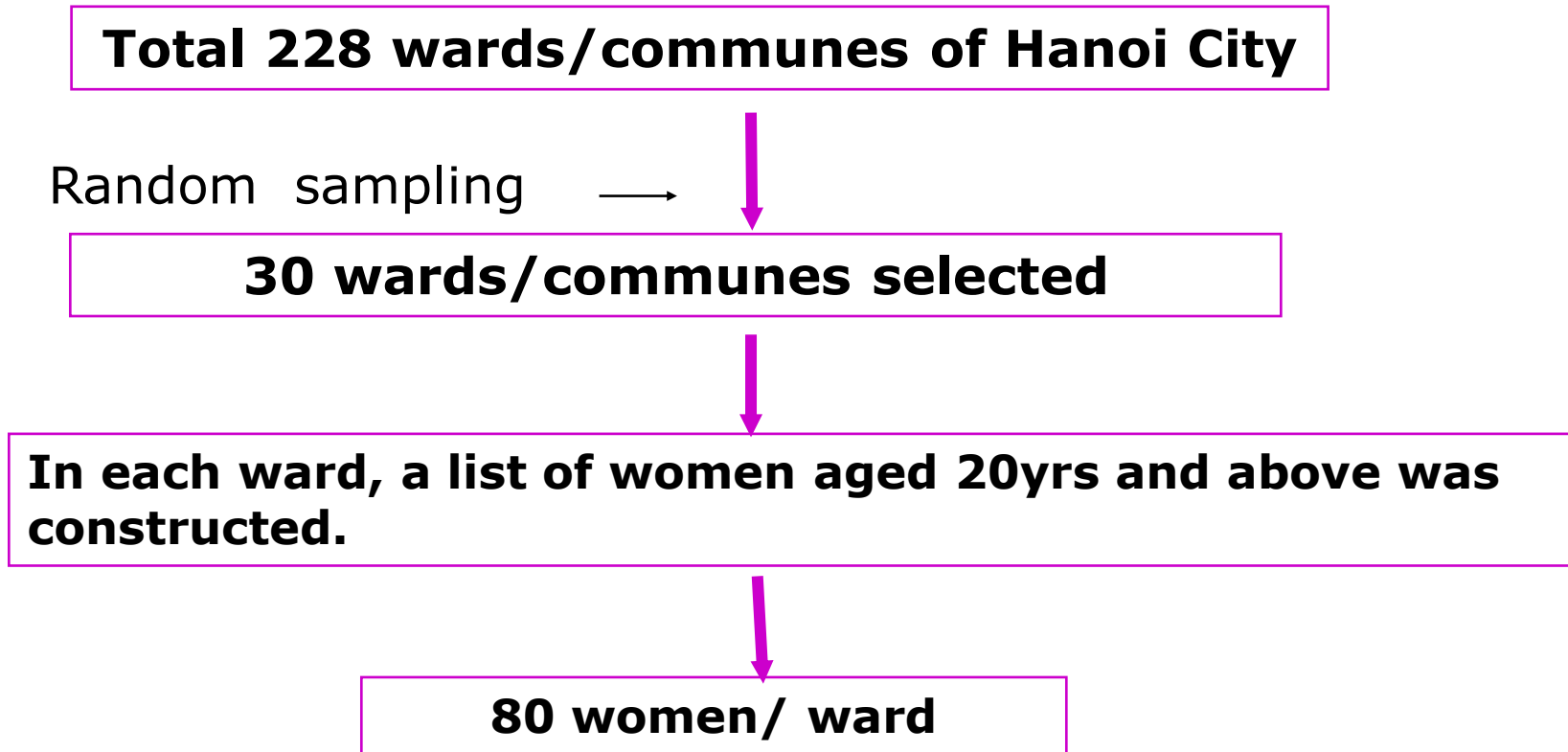
Vu Thi Thu Hien, Nguyen Cong Khan, Nguyen Thi Lam, DucSon NguyenTrung Le, Bui Thi Nhung, Masayo Nakamori, Daisuke Kunii, Tohru Sakai, Shigeru Yamamoto

Determining the prevalence of osteoporosis and related factors using quantitative ultrasound in Vietnamese adult

American journal of epidemiology 161 (9), 824-830, 2005

- **Hien VT, Khan NC, Mai LB, Lam NT, Phuong TM, Nhung BT, Nhien NV, Nakamori M, Yamamoto S.**
- **Effect of community-based nutrition education intervention on calcium intake and bone mass in postmenopausal Vietnamese women.**
- **Public Health Nutr. 2008 Jul 31:1-6.**

Sampling procedure

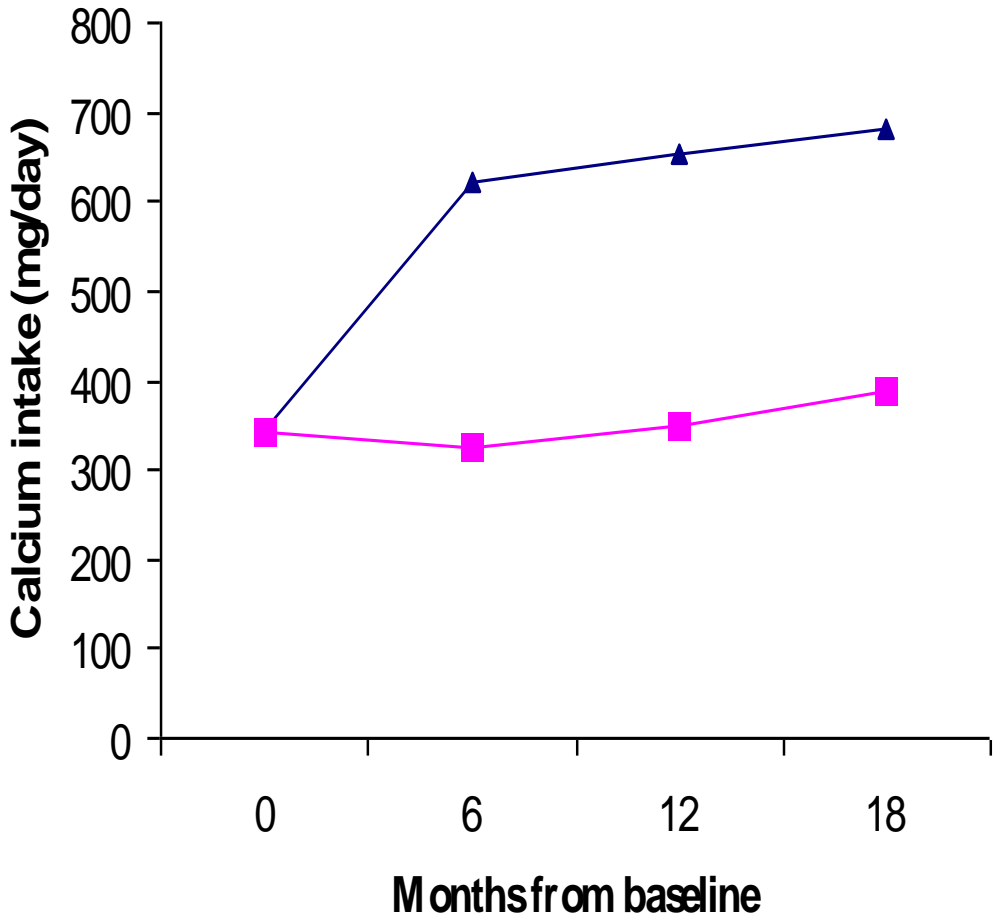


sample size= 80 women/ ward x 30 wards = 2400 (women)

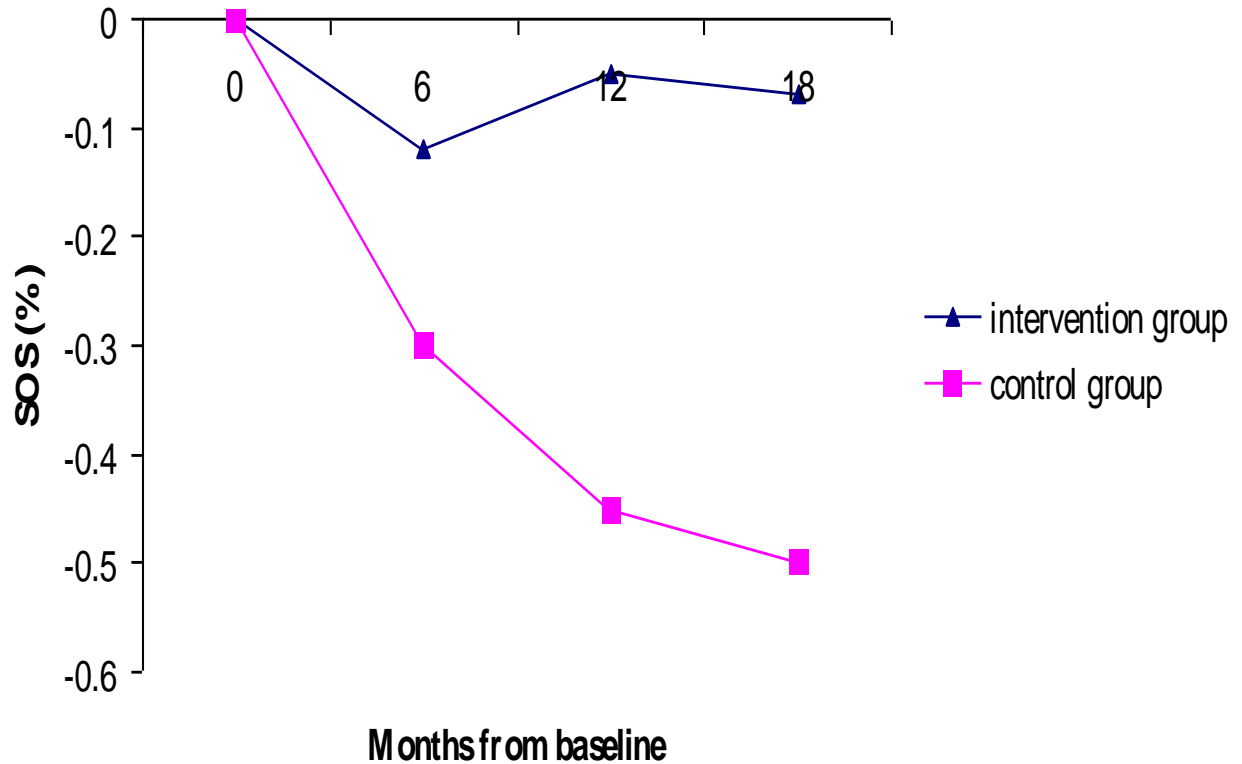
Finally, 2232 women agreed to participate



Mean changes in Ca intake from baseline to the end of study

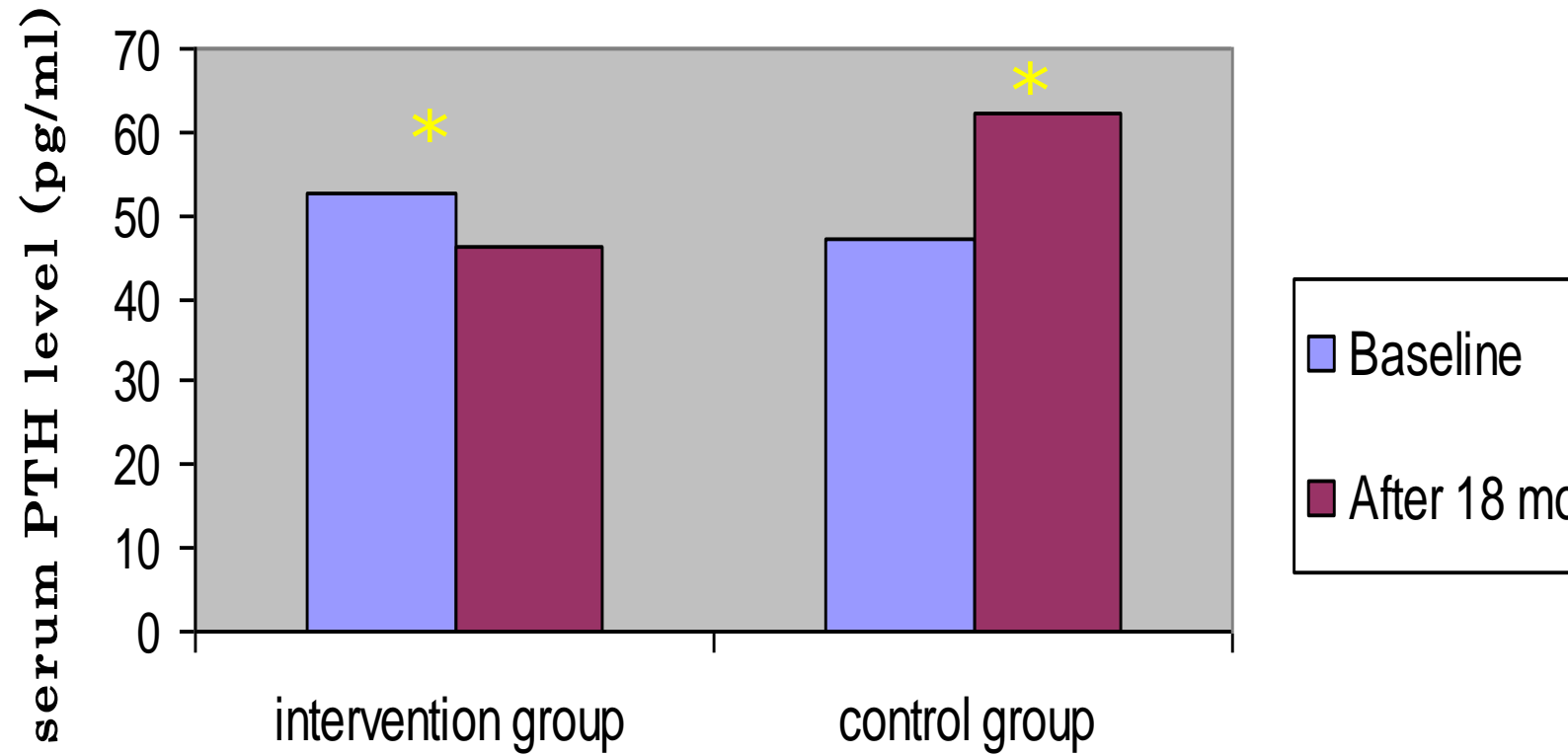


Percentage changes in bone mass from baseline to the end of study



Repeated measures ANOVA test, $p < 0.01$

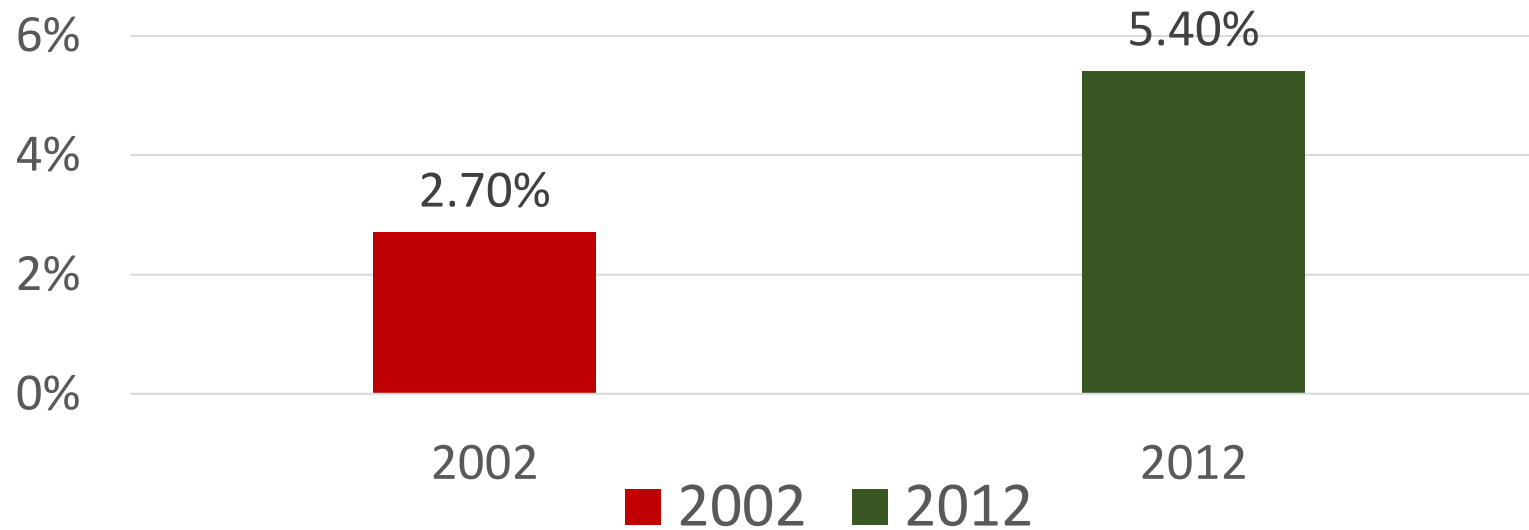
Mean changes in PTH level from baseline to the end of study



Student *t*-test , * : $p < 0.01$



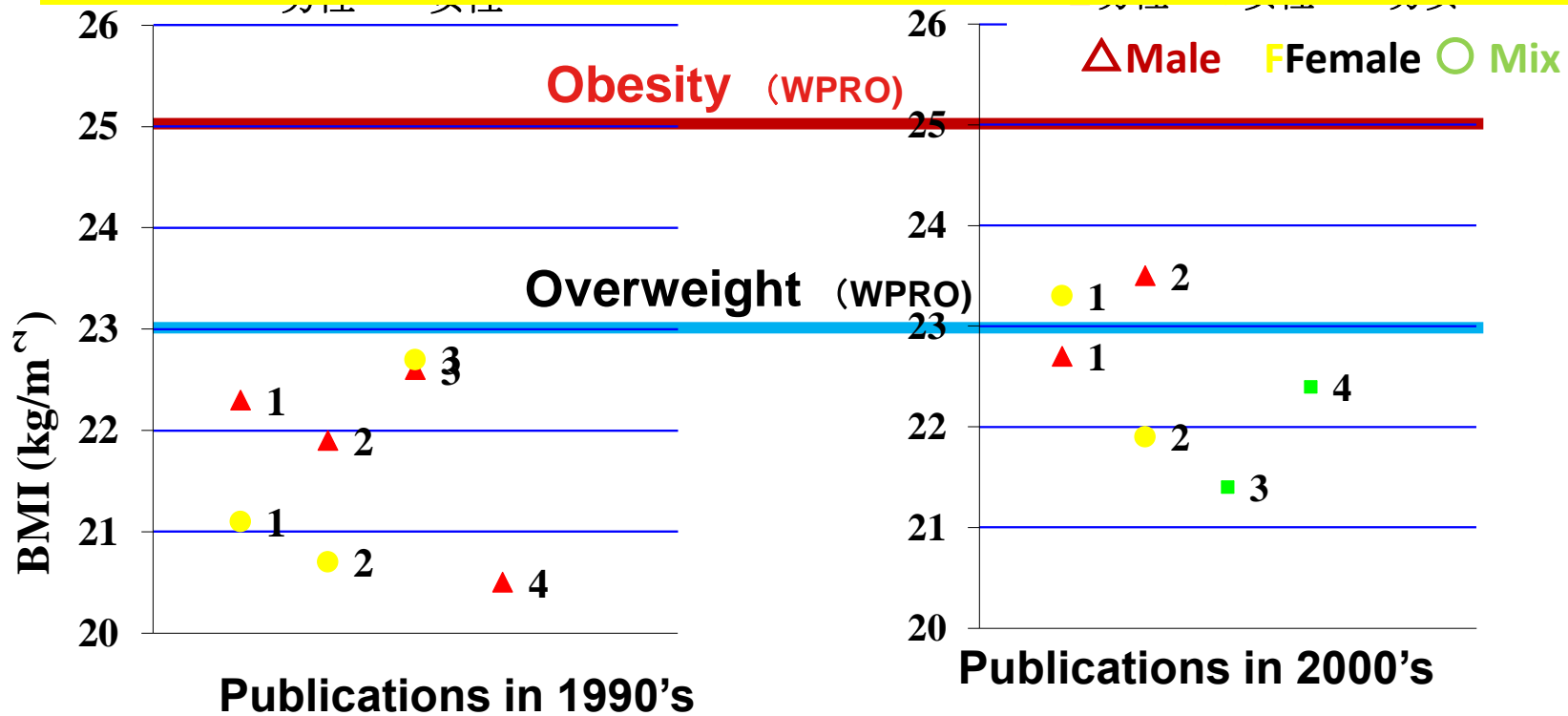
Life style of Vietnamese is changing rapidly, which cause to increase the people with DM. It is estimated that more than 3 million people suffering from T2DM.



Prevalence of T2DM in 2002 and 2012

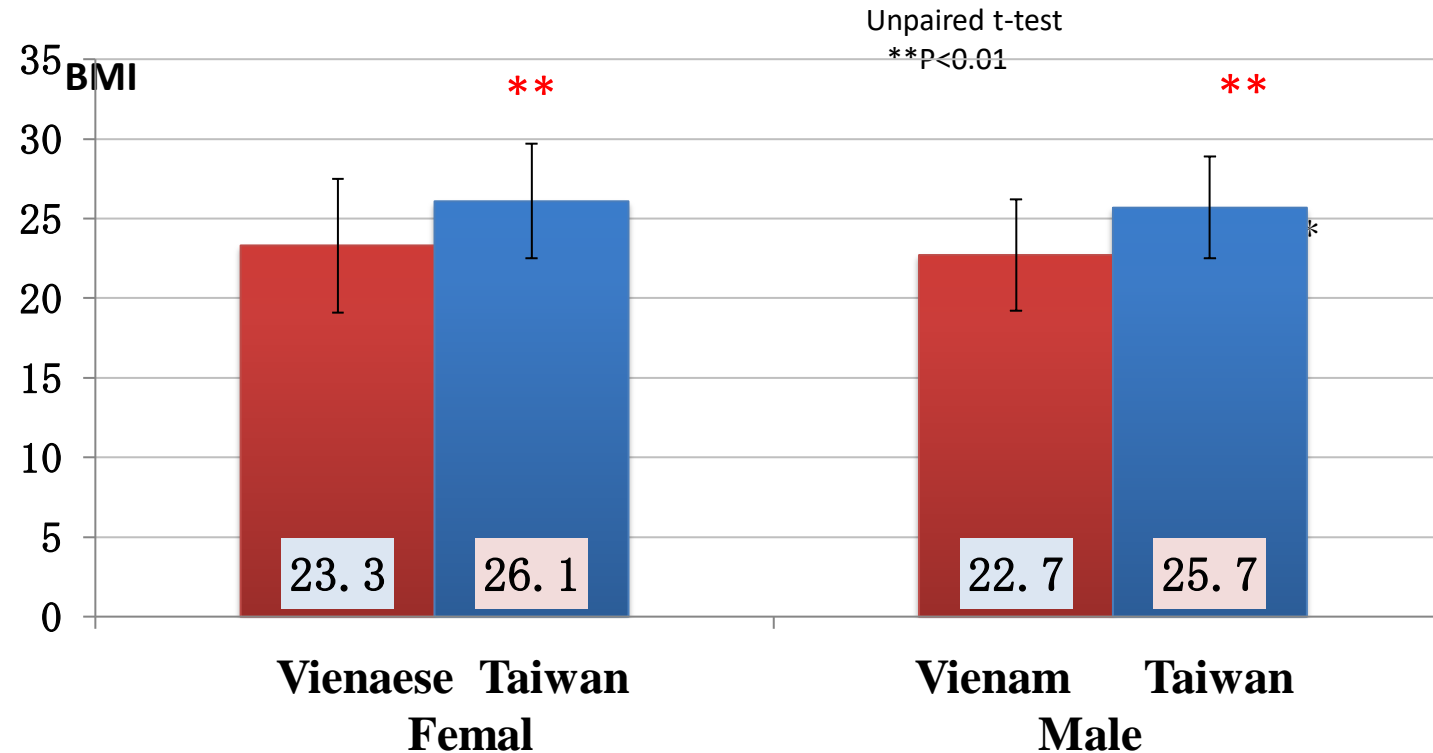


Vietnamese Type 2 DM; Average BMI is normal



1. Study in 241 patients in inpatients unit of NTP hospital (Quỳnh et al)
2. Study in 629 patients in inpatients unit of NDGD (Thủy et al)
3. Study in 504 BN ĐTĐ (Đạt et al)
4. Study in subjects with insulin resistance (Minh et al)

1. Epidemiological study on diabetes in 2932 subjects in Ho Chi Minh Cty (Son et al, 2004)
2. A cross-sectional study in 48 newly diagnosed diabetic patients and 96 normal subjects (matched by age, sex and locality) (Sơn et al 2004)
3. Epidemiological study on diabetes in three districts of Hanoi city with 2017 subjects (Hải et al, 2001)
4. Epidemiological study on diabetes in 3286 subjects in An Giang province (Tuấn et al, 2003)



BMI of newly diagnosed Vietnamese and Taiwanese DM

**significantly different by unpaired t-test (p<0.01)

Subjects; Number: Female V150, T 128, Male V 148, T27

Age (mean±SD); Female V58.5±6.1 , T 61.1±8.5, Male V 61.1±8.5, T61.1±8.5

([Duc Son le NT](#) et al. [J Am Coll Nutr.](#) 2005 Aug;24(4):229-34).

Vietnamese love WR foods



Rice noodle



Sticky rice

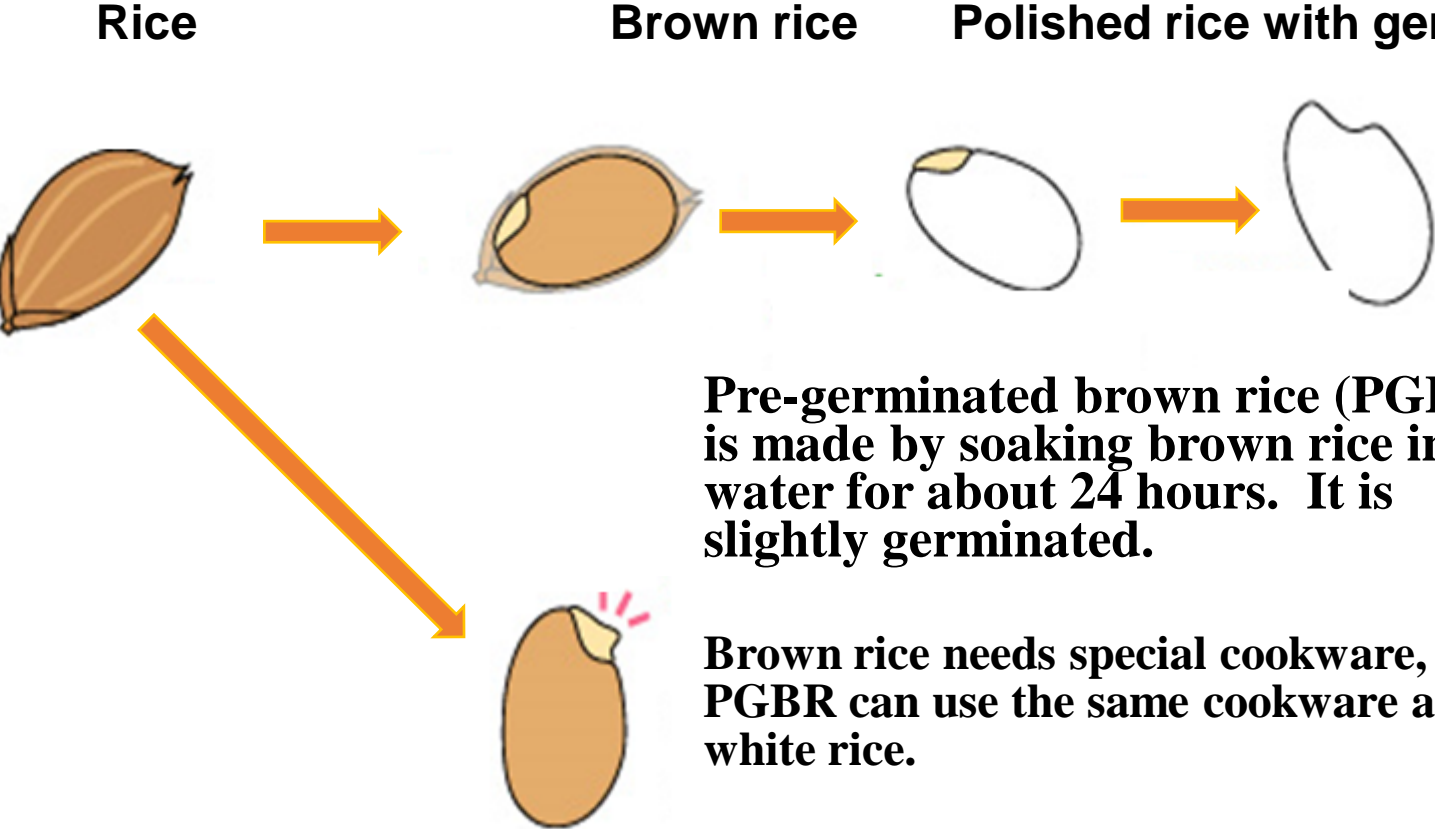


Rice cake



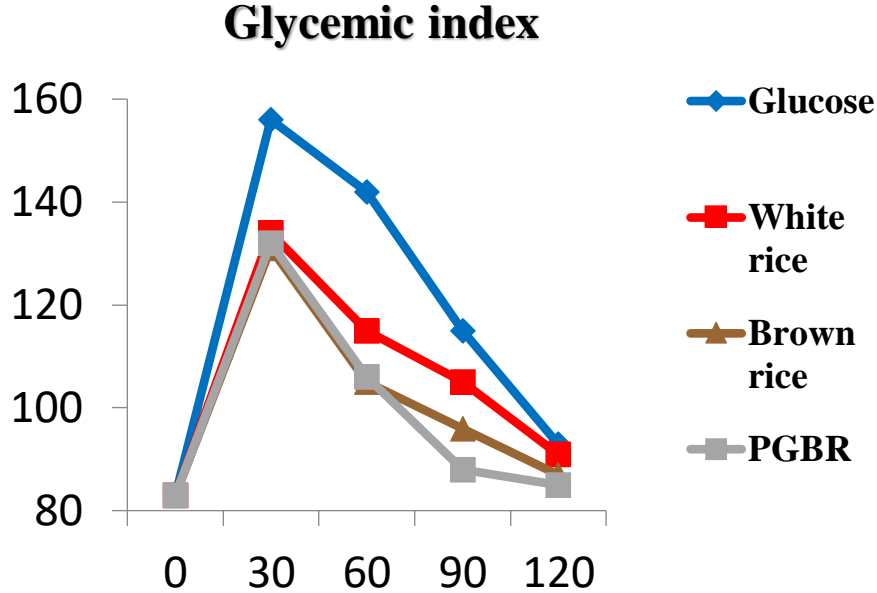
Rice dessert

Replace WR with pre-germinated brown rice (PGBR)



Pre-germinated brown rice (PGBR) is made by soaking brown rice in water for about 24 hours. It is slightly germinated.

Brown rice needs special cookware, but PGBR can use the same cookware as white rice.





Cooked PGBR



We can cook WR and PGBR together. This lady with DM was enjoying PGBR and could control her blood glucose level well.

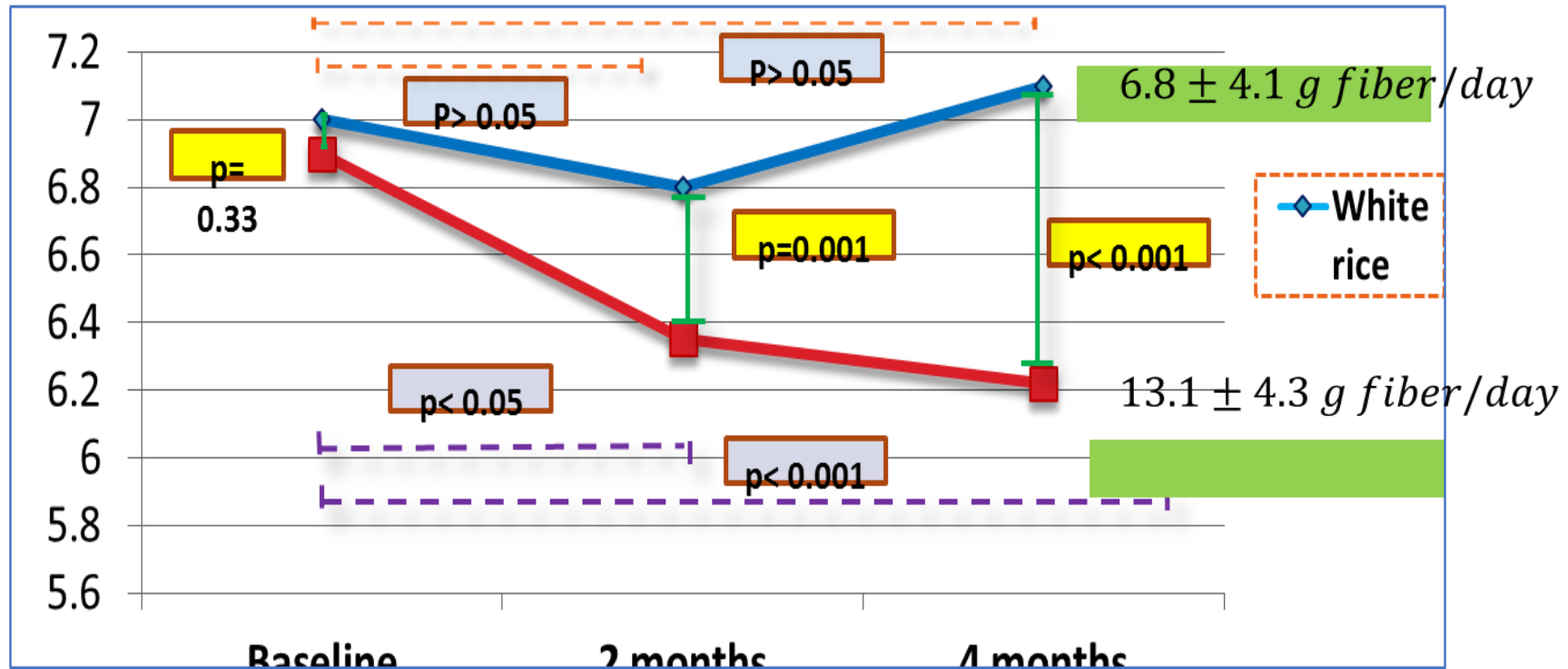
Methods: 60 subjects with IGT were selected and 30 matched-pairs were made.

White Rice Group 4 months

PGBR Group 4 months

- Consume PGBR exclusively as staple food.
- Normal activities without restriction.
- PGBR Group: Free PGBR provided every week.

Pre-germinated brown rice (PGBR) reduced HbA1c of Type 2 DM patients dramatically



Pre-germinated brown rice reduced both blood glucose concentration and body weight in Vietnamese women with impaired glucose tolerance. (Nhung et al 2014)




- Major source of fiber is vegetable
- Vietnam has many kinds of vegetable



	Vietnamese (2010)	Vietnamese RDA	Japanese (2008)
Vegetable intake	190 ± 126 g	300 g	342 g
Fruit intake	61 g	100 g	117 g

**Vegetable consumption is lower than RDA
=> Low fiber intake**

MONOTONOUS VEGETABLE COOKING IN VIETNAM

Traditional method cooking	Current behaviors	Issue
1. Boiled	<ul style="list-style-type: none"> Boiled vegetable is dipped with fish sauce 	Different vegetable but the same cooking methods => monotonous vegetable cooking method
2. Stir- fried	<ul style="list-style-type: none"> Oil, garlic, MSG (seasoning powder), sauce (salt) 	
3. Soup	<ul style="list-style-type: none"> Salt, MSG (seasoning powder) 	



STUDY EXPERIENCE IN JAPAN TO DEVELOPE VEGETABLE MENUS

Example of Japanese recipe which has a lot of vegetables

Okara hamberger

(4 kinds of vegetables)



Sukiyaki

(many kinds of vegetable)



Okonomyaki

(4-5 kinds of vegetable)



Oden

(4 kinds of vegetables)



DRESSING AND MAYONNAISE TO MAKE SALAD





Results of nutrition survey

Dietary intake	Vegetable group			Control group		
	Baseline	Final	p	Baseline	Final	p
Energy (kcal/d)	1404 ± 360	1438 ± 327	0.56	1378 ± 366	1453 ± 511	0.56
Protein (g/d)	66.5 ± 24.6	77.1 ± 39.6	0.19	66.6 ± 42.8	70.6 ± 31.6	0.85
Lipid (g/d)	38.9 ± 18.3	51.5 ± 58.6	0.19	46.5 ± 24.8	40.3 ± 24.1	0.33
Carbohydrate (g/d)	202.5 ± 52.6	202.3 ± 48.9	0.86	192.0 ± 58.9	200.8 ± 71.4	0.71
Fiber (g/d)	9.3 ± 5.7	12.1 ± 5.6	0.051	6.6 ± 3.5	8.0 ± 4.3	0.22
Vegetable (g/d)	298 ± 121	455 ± 84	<0.001	211 ± 104	301 ± 129	<0.01

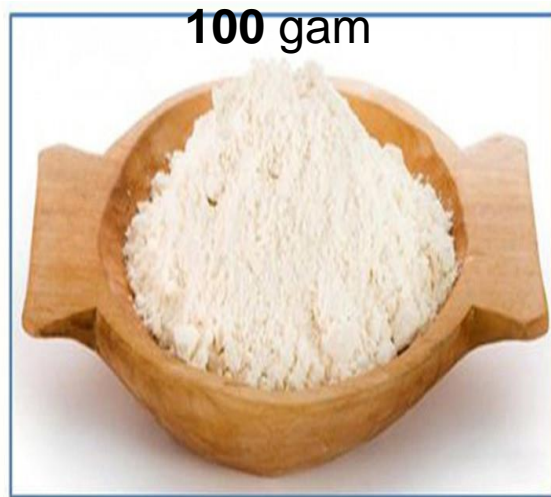
p<0.01 : statistically different by paired student *t*-test .

Okara fiber controlled blood glucose in Vietnamese
type 2 Diabetes Mellitus

Nguyen Lieu



Comparison of Fiber in Okara and some kind of vegetables オカラと野菜の食物繊維量の比較



11.5 g



とうがん1.0
g

100 gam



キャベツ1.6 g



ブロッコ
リー3.2



くうしんさ
い1.0 g



いんげん
1.0 g



ごうや
1.1 g



アスパラ
ガス2.3

g



たけのこ
4.1 g

*Nutritive composition table of Vietnamese foods
(2007).*

Nutritive composition table of Japanese foods (2015).

Pilot study :To assess tasty OKARA menus

Subject

- 12

10 Okara menus

- Tasty score 5-1
- Until average became more 4

Purpose

- To choose the best cooking method



OKARA hamburger



Cooking time: 20
minutes

<Recipe>

1. To grind pork meat/ chicken and mince onion.
2. Stir butter and onion.
3. Mix okara, pork meat/chicken, onion, bread crumbs, egg, soy milk, salt, peper and nutmeg together. And then, kneading by hands to ensure they get incorporated.
4. To knead into small pieces.
5. To fry it about 8-10 minutes until we can eat.
6. Eat together with chinsu soy sauce.



Ingredients (a people)	Preparation	Number
Meat	To grind	50 g
Fresh Okara		30 g
Onion	To mince	50 g
Bread crumbs		10 g
Egg		1/2
Salt		1.5 g
Peper	To grind	A small amount
Butter		4 g
Oil		10 g

Roll cabbage together with okara and meat



Cooking time: 30 minutes

<Recipe>

1. To mix pork meat, fresh okara, tomato, onion, egg, oriander, peper, salt and stir fry.
2. To boil cabbage sheets until we can eat.
3. To roll cabbage sheets with mixed spice and meat Which was fried already.
4. Let eat together with fish sauce.



Ingredients (a people)	Preparation	Number
Pork meat	To grind	35 g
Fresh okara		20 g
Cabbage sheet		60 g
Tomato	To chop	10 g
Egg		1/2
Onion	To grind very thin	3 g
Oriander	To clean and grind	3 g
Salt		3 g

OKARA fried egg and green onion



Time cooking: 20
minutes



Ingredients (a people)	Preparation	Number
Egg		1
Pork meat	To grind	30 g
Fresh Okara		20 g
Lolot	To chop	2-4 sheet
Green onion	To chop	5 g
Fish sauce		2 g
Salt		1 g
Oil		A coffee spoon

<Recipe>

1. To grind pork meat
2. To make clean and chop lolot.
3. To mix egg, pork meat, green onion, lolot, fish sauce and salt togher.
4. To fry with oil until we can eat.

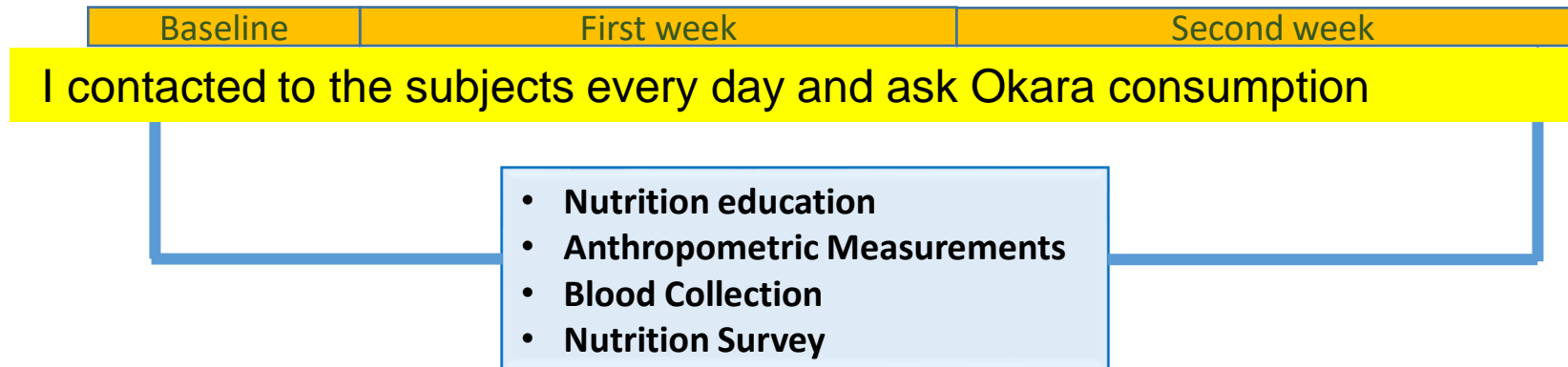
Study design

Time study: 4/2017— 5/2017

Design: Intervention study

	Control	Okara
n	30	30

2 weeks intervention



We had nutrition education and given subjects Okara menus directions



Anthropometric measurements

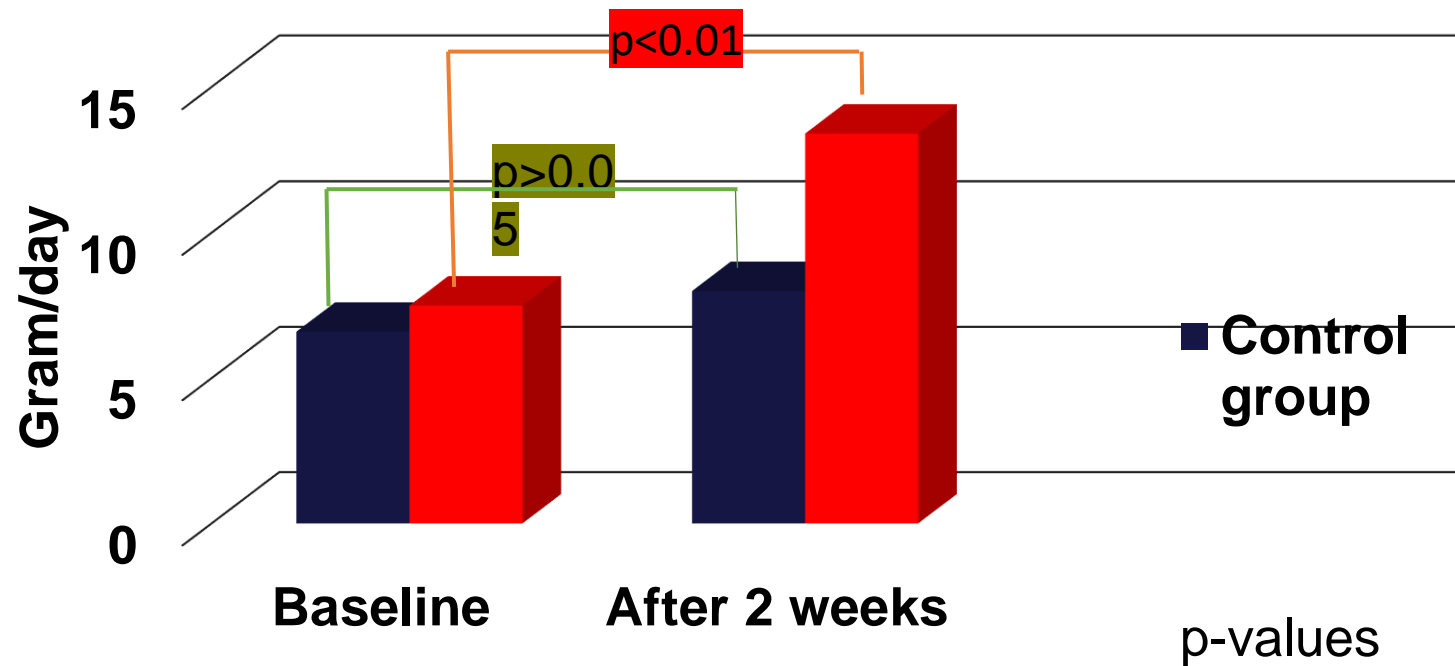


Biochemical Parameters results

Variables	Control group n=30			Okara group n=28		
	Baseline	Final	p-value	Baseline	Final	p-value
Glucose (mmol/L)	6.82 ± 1.61	6.75 ± 1.88	0.638	6.30 ± 1.73	5.39 ± 1.44 ↓	<0.05
Fructosamine (μmol/L)	308 ± 40	317 ± 45	0.178	350 ± 40	314 ± 37 ↓	<0.01
TC (mmol/L)	4.29 ± 0.93	4.80 ± 1.13	0.032	5.04 ± 1.64	5.01 ± 1.65	0.798
TG (mmol/L)	1.06 ± 0.31	1.16 ± 0.33	0.109	2.13 ± 1.79	2.21 ± 1.75	0.762
HDL-C (mmol/L)	2.60 ± 0.85	3.09 ± 1.18	0.035	1.20 ± 0.30	1.19 ± 0.29	0.598
LDL-C (mmol/L)	2.18 ± 1.21	2.40 ± 2.27	0.293	3.33 ± 1.28	3.30 ± 1.47	0.854

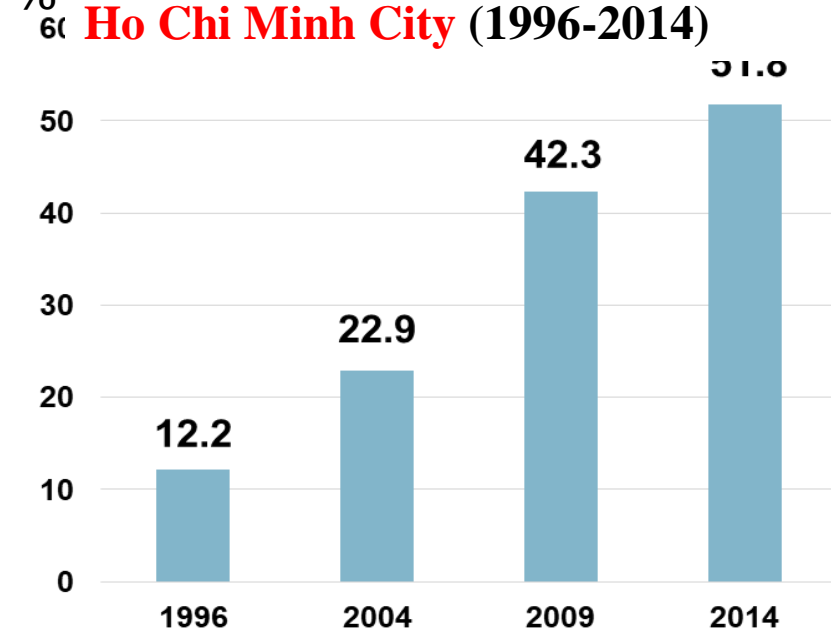
*Data are mean±SD. TC = total cholesterol, TG = triglycerid, HDL-C = high-density lipoprotein cholesterol, LDL-C = low-density lipoprotein cholesterol. P-values obtained by unpaired t-test

Fiber consumption between Okara group and control group

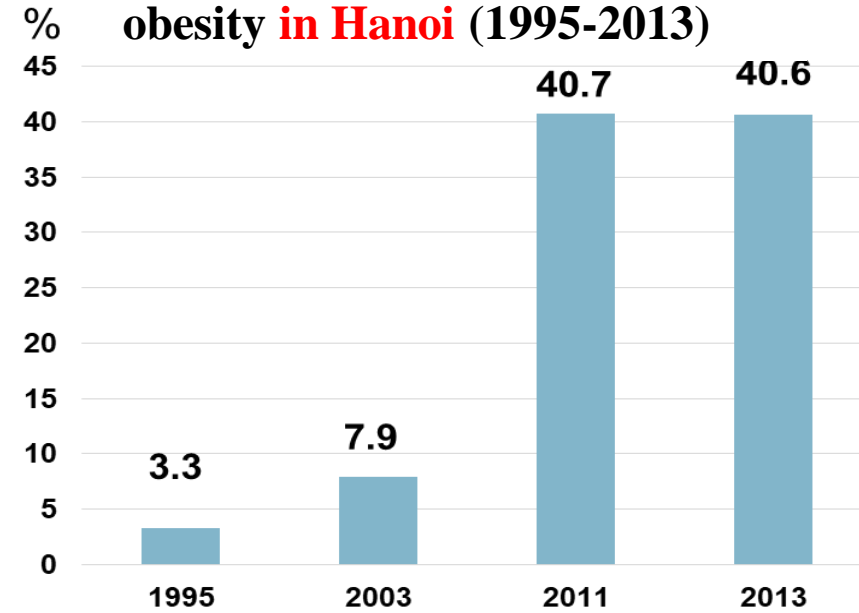


Changes in obesity rate in Vietnam

Prevalence of overweight and obesity in **Ho Chi Minh City** (1996-2014)



Prevalence of overweight and obesity in **Hanoi** (1995-2013)



- ✓ Survey in HCM 1996 - 2014: prevalence of primary school children who suffered from overweight and obesity increases from 12.2% to 51.8%
- ✓ Survey in Hanoi 1995 - 2013: prevalence of primary school children who suffered from overweight and obesity increases from 3.3% to 40.6%

Survey to find mother's perception

Subject: Six hundred pairs of mother and child (children from 6 to 10 years old)

Study design: Cross sectional study

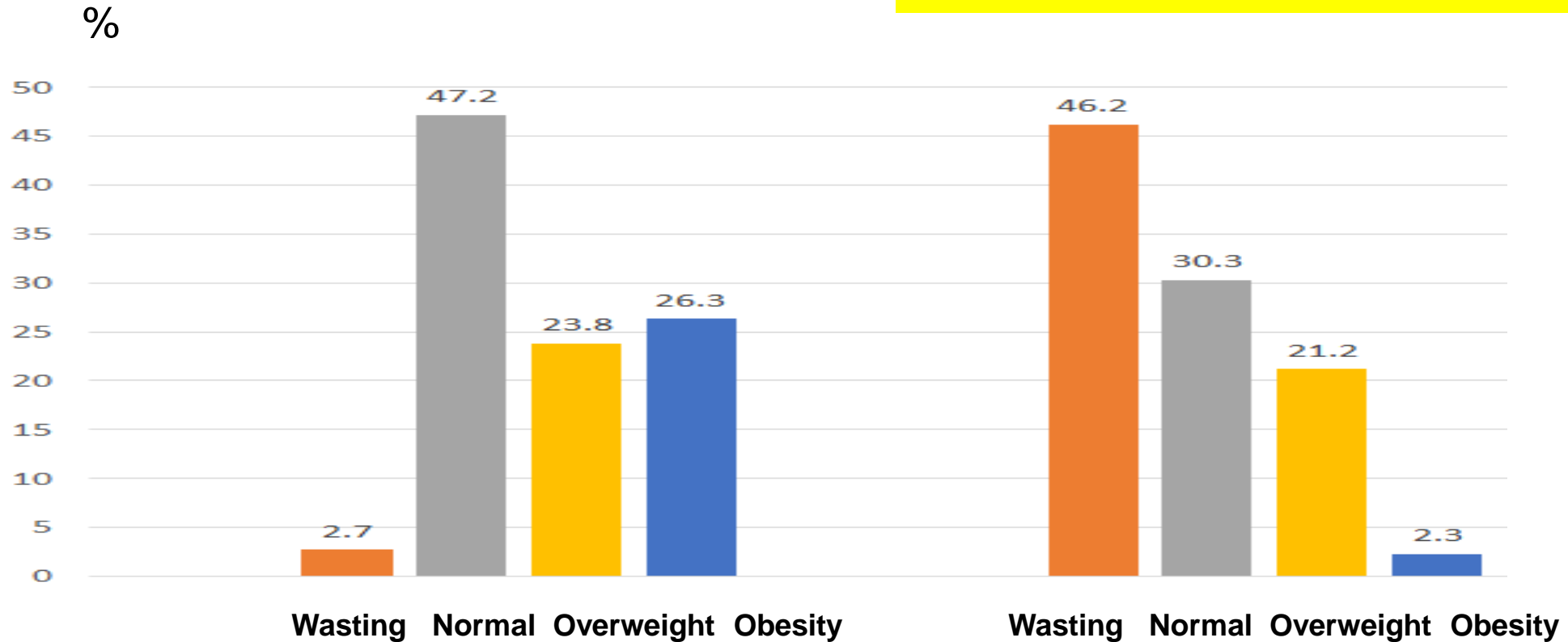
Study areas and subjects: 6 elementary schools in Ha Noi, Hai Phong and Da Nar

In each city, we selected 1 primary school and 1 primary school in a suburban area.



Actual BMI of children

Mother's identification
of their own child's
nutritional status



**Summary of actual nutrition status and mother's identification
of their child's nutrition status in 3 cities**

Effect of school lunch program on obesity

Children with school lunch



After school lunch sleep for about 1 hour





Children without school lunch buy empty foods around school





We obtained the
rental smartphone
and



[TOP](#)[Hoạt động thể chất](#)[Phân tích bữa ăn](#)[Tình trạng thực phẩm](#)[Gửi lời tư vấn](#)[Quản lý cơ thể](#)[Kế hoạch hành động](#)[Điều tra](#)

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Bữa tối ▼

[Cân bằng thực phẩm](#)[Quay lại](#)

hình ảnh 1

[Phóng to](#)

Chú thích

栄養量の計算

Nhập món ăn

[Tìm kiếm chung](#)[Thực phẩm](#)[Thành phần](#)[Hoàn tất](#)

No	Tên món ăn	Số sánh			
1	Cơm miệng bát(Bát 170g)	1.0	Tìm kiếm	Thực phẩm	Thành phần
2					

[Quay lại](#)

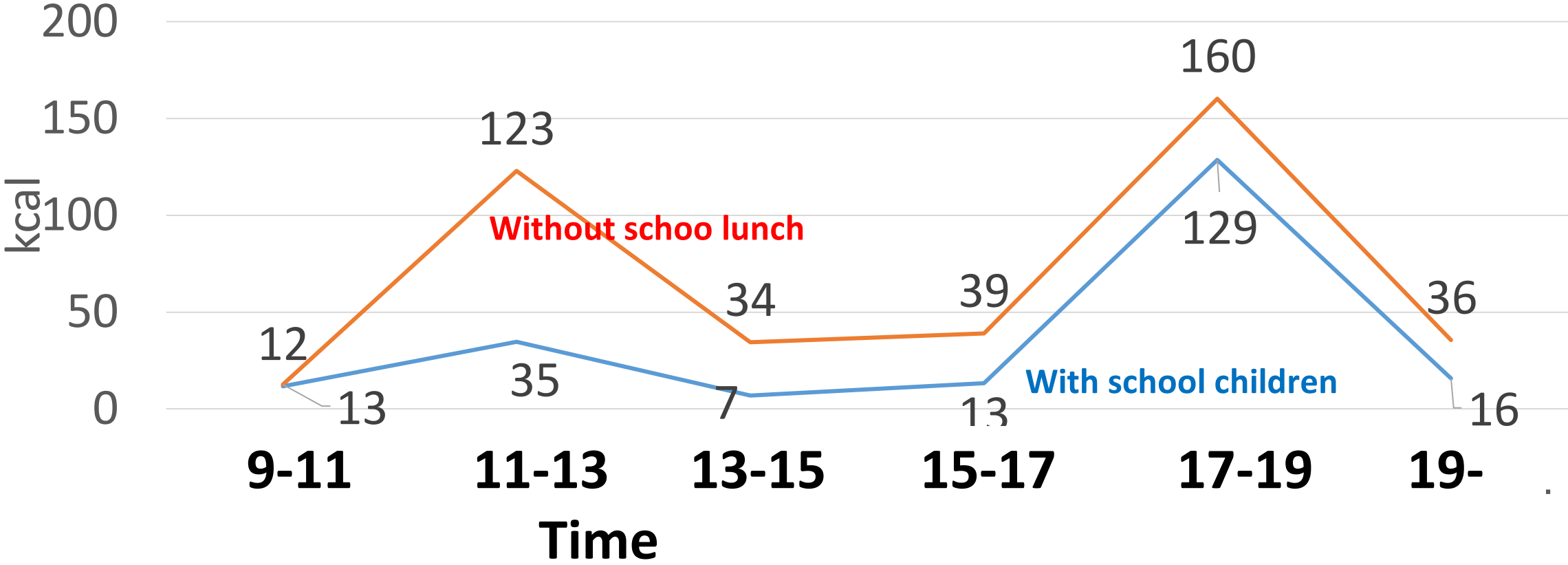
Tổng món ăn

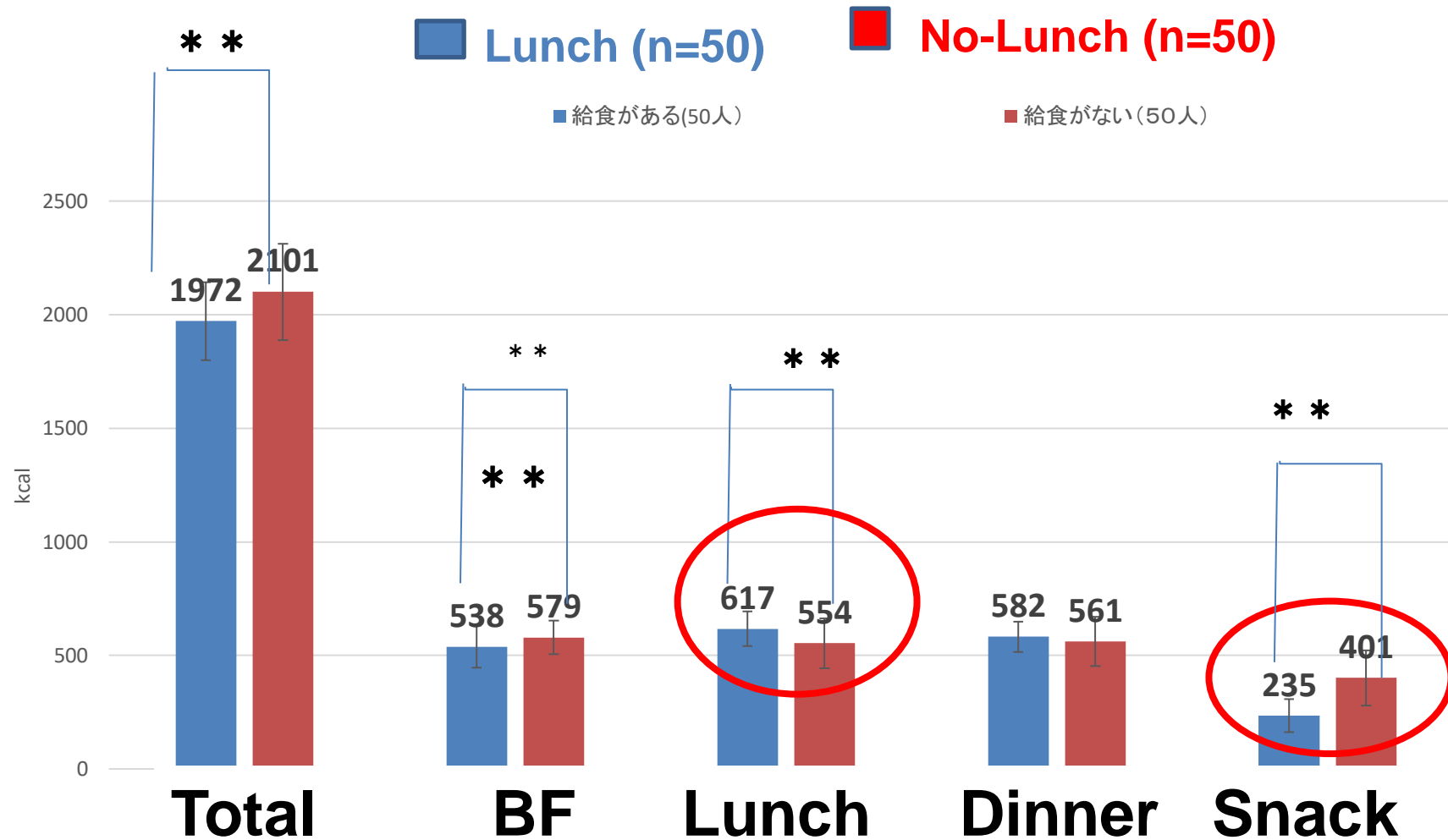
Năng lượng	471	kcal	Lipid (chất béo)	7.7	g
Canxi	54	mg	Cholesterol	38	mg
Vitamin A	60	µg	Cacbonhydrat (tinh bột)	81.1	g
Vitamin D	0.0	µg	Glucose	0.0	g
Vitamin E	0.1	mg	Fructose	0.0	g
Vitamin B1	0.19	mg	Galactose	0.0	g
Vitamin B2	0.16	mg	Sucrose	0.0	g
Vitamin B12	0.2	µg	Maltose	0.0	g
Vitamin C	12	mg	Lactose	0.0	g
Protein (đạm)	19.2	g			

Theo "Bảng thành phần tiêu chuẩn thực phẩm Nhật Bản (Tái bản lần 7)"
 Những thực phẩm có tên dưới dạng "Y_Tên món ăn", "Y_Tên thực phẩm" chỉ có duy nhất thành phần các loại đường. (Được đóng góp bởi Giáo sư Yamamoto Shigeru).

Energy intake from snacks in children with or without school lunch

n=50

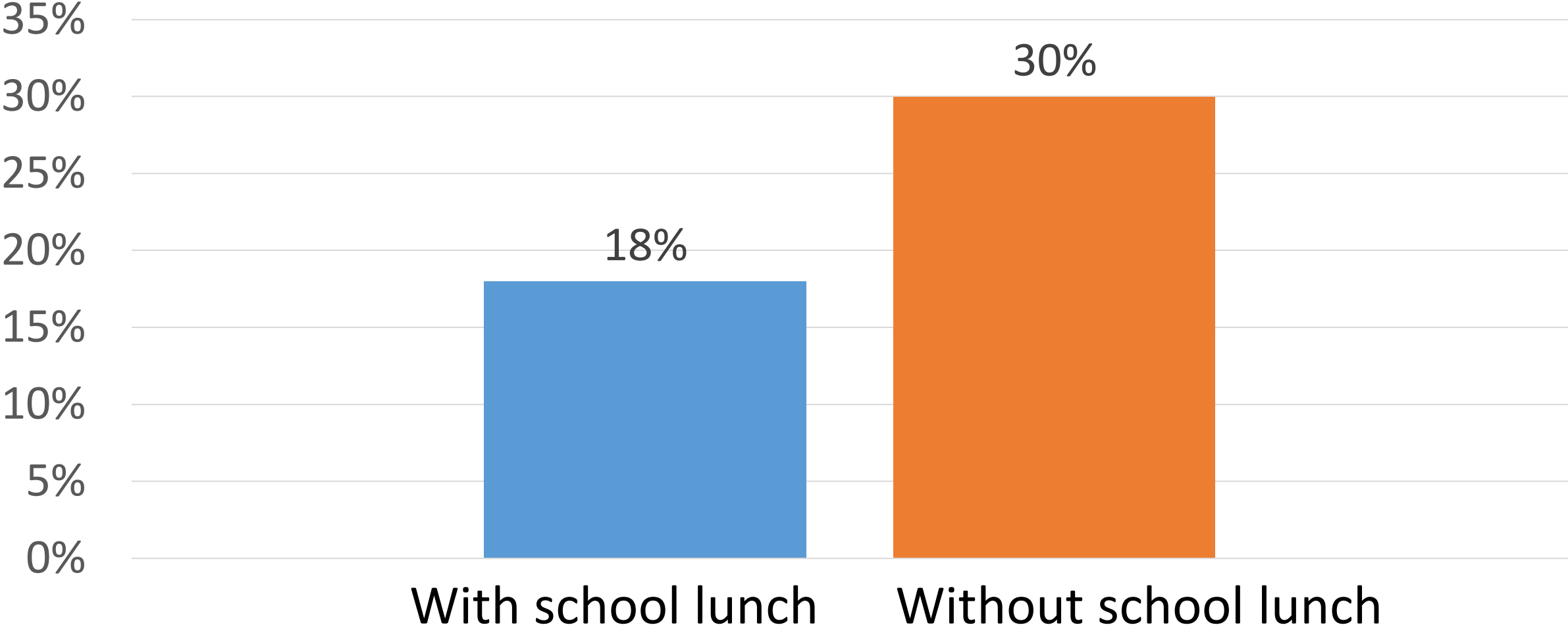




**Energy intake for 3 days
with or without school lunch**

Prevalence of obesity

N=50
P=0.05





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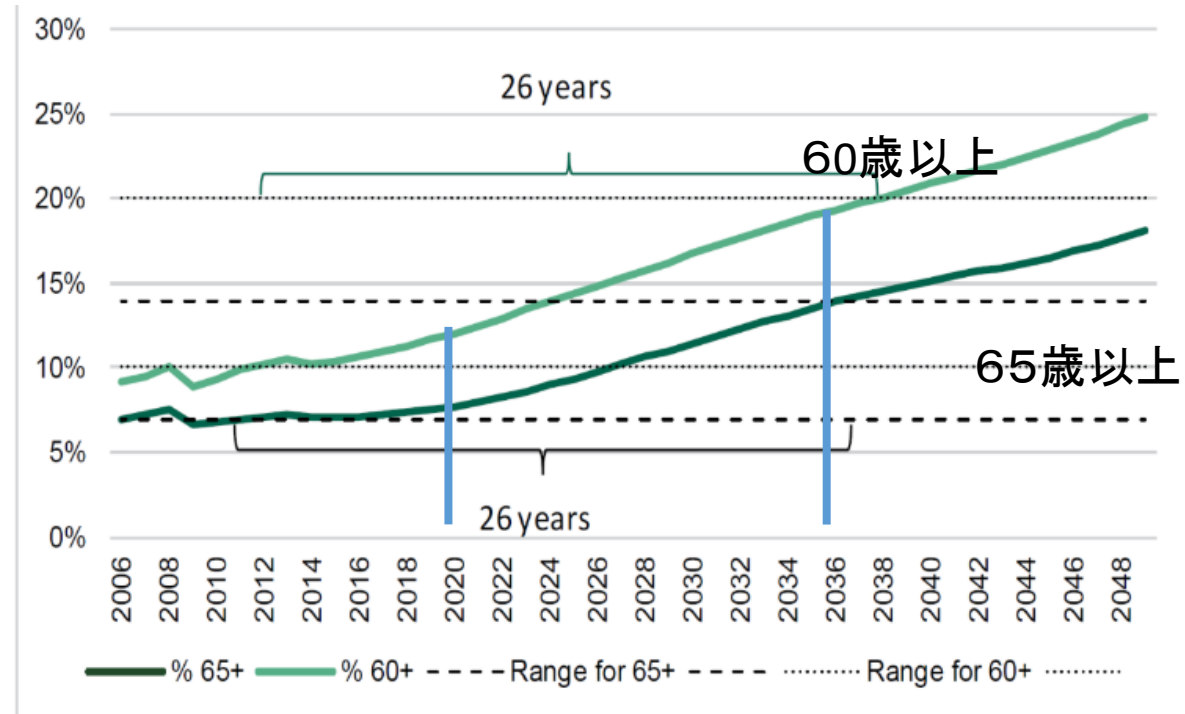
DIETARY MANAGEMENT IN DYSPHAGIA ELDERLY IN VIETNAM

トラン フォン タオ

MA17502

Japan, 2/2019

背景





The number of elderly people are increasing in Vietnam
 ベトナムでも人口の高齢化が急速に進んでいる

Dysphagia is the common problem in aging population
高齢者では、嚥下障害は一般的問題である。














NUTRITIONAL MANAGEMENT BETWEEN VIETNAMESE AND JAPANESE HOSPITAL

ベトナムと日本の嚥下障害者の栄養管理

Japanese hospital 日本の病院	Vietnamese hospital ベトナムの病院
	<p data-bbox="1411 596 2135 645">Nasogastric tube (EN) 経管栄養</p> 
<p data-bbox="453 1073 703 1116">Pasted foods</p> <p data-bbox="886 1082 1192 1125">Foods with jelly</p>	

Dietary guide for dysphagia depending upon the condition

嚥下障害患の状態別食事法

Japanese hospital 日本の病院	Vietnamese hospital ベトナムの病院
Current diet 現在のダイエット	
<p> Jelly  0j  0t Jelly/ Pudding/ Mousse  1j  0t Puree/Paste/ Blended food  2-1 2-2 It has form and can be pressed down. Highly cohesive 3  It has form. Mastication is needed. 4  </p> <p> Japanese Dysphagia Diet 2013 by JSDR dysphagia committee </p>	<p> 1. Soup (tube feeding and eat) スープ(経口、経管)  </p> <p> 2. Soft diet: noodle, porridge 柔らかい食事: 麺、お粥   </p> <p> 3. Regular diet 普通の食事  </p>

This graduate student from HMU have learned assessment methods and dietary management for dysphagia patients from Japanese dietitians



Dysphagia screening test 嚥下障害スクリーニング検査

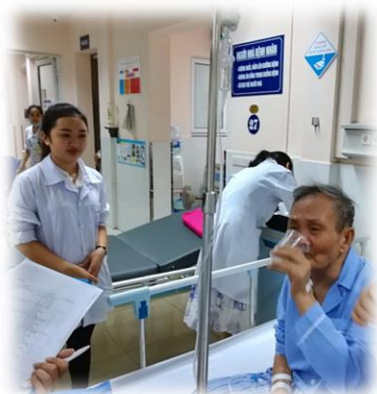
Repetitive Saliva Swallowing test (RSST) 反復唾液嚥下試験 (RSST)

<3回/30秒
嚥下障害



≥3回/30秒
次の検査

次のスライド



Water swallowing test (WST) 水飲みテスト

3mLの水を飲む

むせ・誤嚥

ない

あり

嚥下障害

むせ・誤嚥

30mLの水を飲む

むせ・誤嚥なく5秒以内に一度に飲み込める 正常

むせ・誤嚥なく飲み込むために、5秒以上、2回以上の嚥下が必要。

嚥下障害の疑い

Mini Nutrition Assessment-Short form (MNA-SF) questionnaires

簡易栄養状態評価表



簡易栄養状態評価表

Mini Nutritional Assessment-Short Form

MNA®

氏名: _____

性別: _____ 年齢: _____ 体重: _____ kg 身長: _____ cm 調査日: _____

下の□欄に適切な数値を記入し、それらを加算してスクリーニング値を算出する。

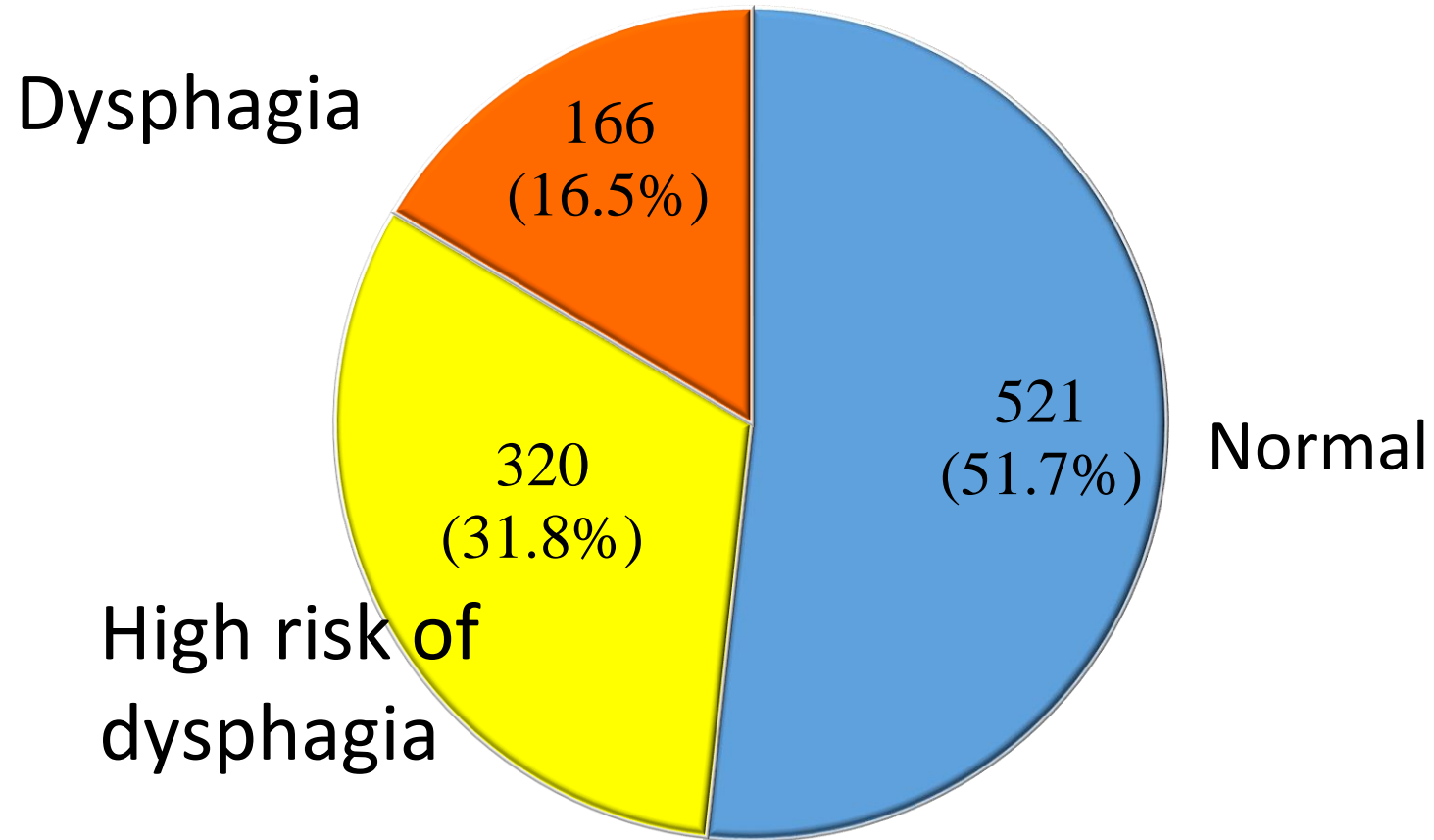
スクリーニング	
A 過去3ヶ月間で食欲不振、消化器系の問題、そしゃく・嚥下困難などで食事が減少しましたか? 0 = 著しい食事量の減少 1 = 中等度の食事量の減少 2 = 食事量の減少なし	<input type="checkbox"/>
B 過去3ヶ月間で体重の減少がありましたか? 0 = 3 kg 以上の減少 1 = わからない 2 = 1~3 kg の減少 3 = 体重減少なし	<input type="checkbox"/>
C 自力で歩けますか? 0 = 寝たきりまたは車椅子を常時使用 1 = ベッドや車椅子を離れられるが、歩いて外出はできない 2 = 自由に歩いて外出できる	<input type="checkbox"/>
D 過去3ヶ月間で精神的ストレスや急性疾患を経験しましたか? 0 = はい 2 = いいえ	<input type="checkbox"/>
E 神経・精神的問題の有無 0 = 強度認知症またはうつ状態 1 = 中程度の認知症 2 = 精神的問題なし	<input type="checkbox"/>
F1 BMI (kg/m²): 体重(kg)+身長(m)² 0 = BMI が19 未満 1 = BMI が19 以上、21 未満 2 = BMI が21 以上、23 未満 3 = BMI が23 以上	<input type="checkbox"/>
BMI が測定できない方は、F1の代わりにF2に回答してください。 BMI が測定できる方は、F1のみに回答し、F2には記入しないでください。	
F2 ふくらはぎの周囲長(cm): CC 0 = 31cm未満 3 = 31cm以上	<input type="checkbox"/>
スクリーニング値 (最大: 14ポイント)	<input type="checkbox"/> <input type="checkbox"/>
12-14 ポイント: 栄養状態良好 8-11 ポイント: 低栄養のおそれあり (At risk) 0-7 ポイント: 低栄養	

Hand grip strength test 握力 テスト



Hand grip strength relates well with the muscle strength for swallowing

She has studied the prevalence of dysphagia in 1,007 hospitalized elderly patients



■ 嚥下障害 ■ 嚥下障害のリスク ■ 嚥下障害

Evaluation of foods for dysphagia patients by the student

食事の粘度、味が適切であるかどうかの栄養士による評価





The student is teaching to medical staff who take care of dysphagia patients



The student is teaching how to make foods for dysphagia patients

The first publication in Vietnam about the dietary management for dysphagia patients by the student

嚥下障害者への食事管理に関するベトナム初の論文発表

Lời cảm ơn: Cảm ơn Giáo sư Yamamoto, Trường Đại học Jumonji-Nhật Bản và công ty Nutri-Nhật Bản đã hỗ trợ cho nghiên cứu này.

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Summary
APPLICATION OF THICKENED LIQUID ON STROKE PATIENTS WITH DYSPHAGIA

Objective: To determine the viscosity of liquid added 1%, 2%, 3% xanthangum. Then, to apply viscosity levels of thickened liquid on stroke patients with dysphagia. **Subjects and methods:** measure viscosity of thickened liquid by Rotational Viscometer B type. Assess dysphagia by MASA tool and apply thickened liquid on stroke patients in Vietnam Friendship Hospital. Results: Viscosity of water+1% xanthangum was 250-1000mPa.s, 2% and 3% were 1000-5000mPa.s and 5000-9000mPa.s, respectively by using Rotational Viscometer B type. The average of water by oral intake was 826.6444.3ml/day. Stroke patients with more severe difficulty swallowing consumed less water and responded better with higher viscosity of liquid following the standard. **Conclusion:** The thickened liquid responds well to the degree of dysphagia on stroke patients.

Keywords: Stroke, dysphagia, viscosity, water consumption, Viet Xo Friendship Hospital.

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Nguyễn Thuỳ Linh, Trần Phương Thảo (2018), Ứng dụng chất lỏng có độ nhớt tiêu chuẩn trên bệnh nhân đột quỵ não khó nuốt. Tạp chí Dinh dưỡng – Thực phẩm 5: 23-28

Publication of the student in 2 years

- **Article**

1. **Tran Phuong Thao**, Nguyen Thuy Linh, Hiroshi Nishiyama, **Fumio Shimura and Shigeru Yamamoto**, Higher vegetable intake improved blood glucose level in Vietnamese with type 2 Diabetes Mellitus, Int J Clin Nutri and Diet, 124 (3), 2017.
2. Linh Nguyen Thuy, **Thao Tran Phuong**, Phuong Duong Thi. The feeding practices of post-operative gastrointestinal patients in Hanoi Medical University Hospital, Vietnam. Journal of Medical Research, 116 (7), 2018.
3. Nguyễn Thùy Linh, **Trần Phương Thảo**, Bùi TH, Phạm TTC. (supported by **Jumonji University**). Application of thickened liquid on stroke patients with dysphagia. Journal of food and Nutrition sciences 5:23–28, 2018.
4. Linh NT, **Thao TP**, Vân nb. Effect of nutritional intervention by the high fiber diet of type 2 diabetes mellitus patients, Journal of Medical Research, 113 (4), 2018.
5. Lieu Thi Nguyen, Tu Huu Nguyen, Linh Thuy Nguyen, Sumiko Kamoshita, **Thao Phuong Tran**, Huong Thi Le, **Fumio Shimura and Shigeru Yamamoto**. Okara improved blood glucose level in Vietnamese with type 2 diabetes mellitus. Journal of Nutritional Science and Vitaminology, 65, 61-66, 2019.

- **Booklet**

1. Nguyen Thuy Linh and **Tran Phuong Thao**. (supported by **Jumonji University**) (2018). Nutrition support for dysphagia patients. Medical Publishing House, Vietnam.

The student published a booklet and distributed it to the whole country



MỘT SỐ ĐỘNG TÁC LUYỆN TẬP HỖ TRỢ CHỨC NĂNG NUỐT

- Trong giờ nghỉ, luyện tập ho 2-3 lần: mục đích để có phản xạ ho khi bị hít sặc
- + Dùng gối ôm trước ngực để ho
- + Nếu đã quen thì không cần dùng gối
- Trước khi ăn, thực hiện những động tác sau:



CHÁO

	E 120kcal	P 2,8g	L 0,4g	C 26,7g
Nguyên liệu		1 người		
Cháo		250g		
Cách làm				
1 Nấu cháo theo tỷ lệ gạo:nước = 1:7				
Mức nghiền nhuyễn		Mức xay lỏng		
E 120kcal	P 2,8g	L 0,4g	C 26,7g	E 120kcal
	P 2,8g	L 0,4g	C 26,7g	P 2,8g
				L 0,4g
				C 26,7g
		Kiểm tra bằng đĩa kích thước bề ngang 1,5 cm		
		Cách làm		
1 Nhấn máy xay cháo trong 10 giây		1 Nhấn máy xay cháo trong 1 phút		
2 Trộn 0,3g chất tạo đặc vào khuấy đều		2 Trộn 0,3g chất tạo đặc vào khuấy đều		



CÁ RÁN

	E 60kcal	P 16,2g	L 2,6g	C 0g
Nguyên liệu		1 người		
Cá rán		80g		
Cách làm				
1 Cá rán bỏ hết xương cá				
Mức nghiền nhuyễn		Mức xay lỏng		
E 60kcal	P 16,2g	L 2,6g	C 0g	E 56kcal
	P 15,2g	L 2,5g	C 0g	P 15,2g
				L 2,5g
				C 0g
		Cách làm		
1 Cá rán bỏ hết xương cá		1 Cá rán bỏ hết xương cá		

The first symposium in Vietnam about dietary management for dysphagia patients was held in 2018 and there were many participants



JUMONJI UNIVERSITY
ANFCRC 群馬県が丘病院 NUTRI
Trường Đại Học Y Hà Nội
HỘI THẢO
DINH DƯỠNG HỖ TRỢ
CHO NGƯỜI MẮC RỐI LOẠN NUỐT
Hà Nội, ngày 05/12/2018

JUMONJI UNIVERSITY
ANFCRC 群馬県が丘病院 NUTRI
TRƯỜNG ĐẠI HỌC Y HÀ NỘI
HỘI THẢO
DINH DƯỠNG HỖ TRỢ
CHO NGƯỜI MẮC RỐI LOẠN NUỐT
Hà Nội, ngày 05 tháng 12 năm 2018

JUMONJI UNIVERSITY
ANFCRC 群馬県が丘病院 NUTRI
Hanoi Medical University
WORKSHOP
NUTRITION SUPPORT
FOR DYSPHAGIA PATIENT
Hanoi, 05/12



GS. TS. Tạ Thành Văn

GS. TS. Phạm Đức Hoàn

GS. Yamamoto Shigeru
Trưởng Đại Học Y Jumanji Nhật Bản

GS. TS. NGUYỄN

The workshop was reported by a nation-wide TV news





Thank you very much for your patience

