



佛教慈濟台北慈濟醫院
醫療財團法人
Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation

Exploring Factors Associated with Compliance with CKD-specific Low Protein Supplements among CKD Patients

Registered Dietitian, FANG-CHING HU



Vegetarian Meals in Tzu Chi Hospital

- ❑ Feature fresh, locally grown vegetables
- ❑ At least 1 portion of leafy green vegetable per meal
- ❑ At least 2 other colored vegetables per meal
- ❑ Options of grain choices: white rice, brown rice, multi-grain rice, noodles, congee, Chinese buns (“Mantou”)

Soy bean curd with red and yellow pepper in tomato sauce

Stir-fry spinach

Tofu wrapped in veggie ham

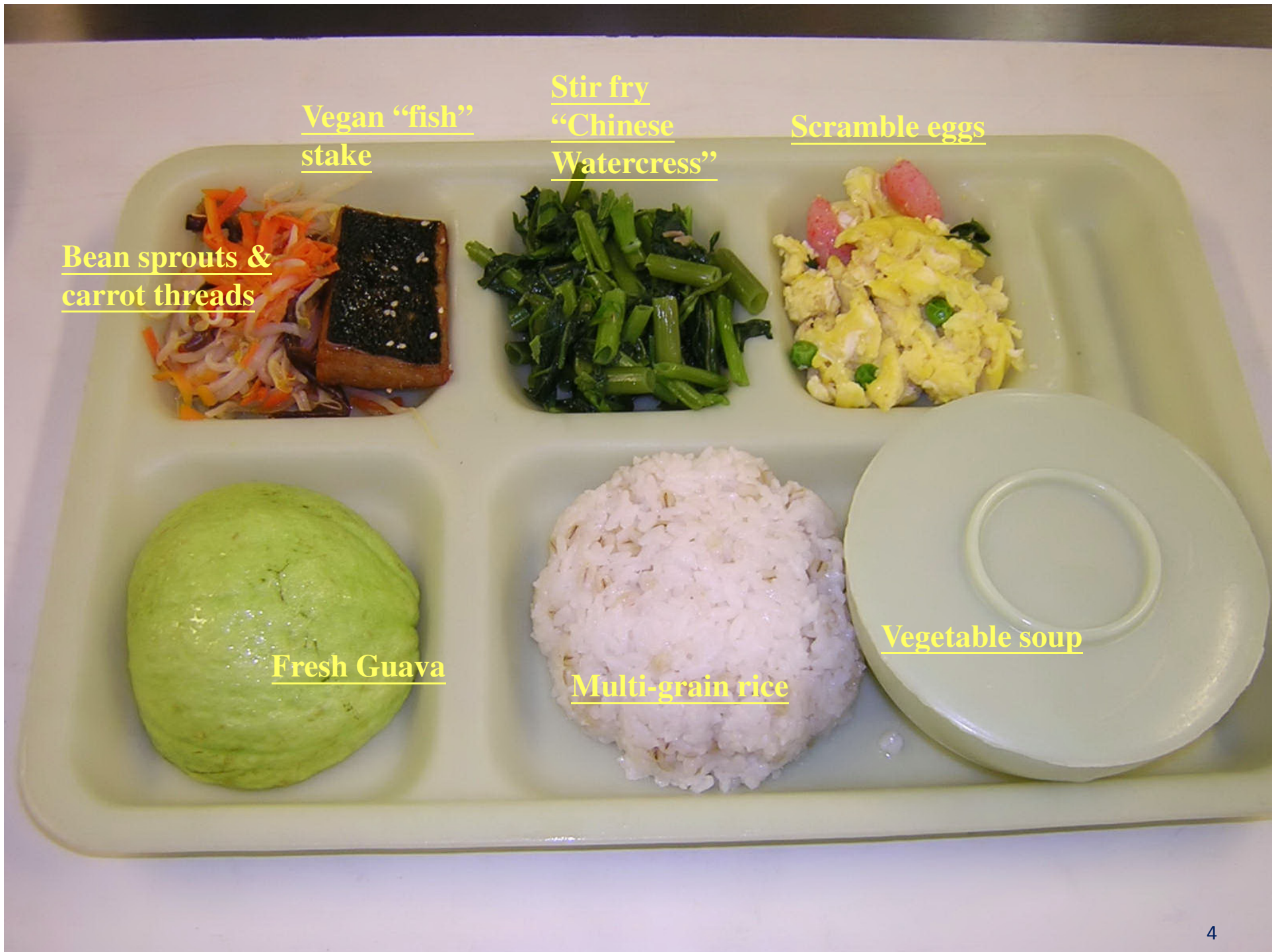
Stir-fry bok choy and carrots



Rice with black sesame

Tofu and bean sprout soup

Fresh melon



Vegan "fish" stake

Stir fry "Chinese Watercress"

Scramble eggs










Bean sprouts & carrot threads

Fresh Guava

Multi-grain rice

Vegetable soup



	Breakfast	Lunch	Dinner
Meal	 	 	 
Snack			



Vegetarian Food Court for patients, families, visitors and staff

- ❑ vegan cafeteria with 100+dishes
- ❑ Hot Pots
- ❑ Noodle Shop
- ❑ Traditional Taiwanese food
- ❑ Japanese Style
- ❑ Korean Style
- ❑ And more ...

大愛美食坊

心寬無煩惱 素食無痛苦 食物重環保 儀禮氣質好

【營業時間：每日早上09:30至下午21:00】
 ● 地址：台北縣新店市建國路289號B1 ● 電話：(02)6628-9779
 ● 謝絕住院病患至美食坊用餐；如需訂餐，請洽以下分機，再委託家屬取餐。

 熱食區	 得緣餐飲坊 分機5642 扁醋/拌麵(附湯)、麻油麵線(附湯)、龍純麵、冬粉、香菇素肉扁麵、紅油炒手、龍純湯、日式蛋包飯、茄汁炒飯、當歸藥膳、咖哩飯、水餃...等。	 天味素食 分機5638 天味素食以素食小點心為特色，水煎包、蚵仔煎、煎餃、酥餅，便利迅速的素食選擇，更受本院護理部同仁愛心贊的好評。	
	 明德素食園 分機5655 提供樣式豐富的自助餐及便當，以供選擇。請預先訂購。服務時間：週一至週五早上06:30-20:00	 泰皇料理 分機5641 素板麻雞套餐、雲式素明蝦、花枝圈套餐、咖哩、紅綠咖哩椰汁雞、泰式雲吞麵、雲式酸香肉鮮菇、鳳梨炒飯、紹子巴巴絲、叉燒意麵...等泰式精緻創意料理。	 養生園 分機5640 鐵板麵、鐵板麵套餐、鍋燒系列、中韓日式飯糰、小火鍋類、東方美人紅茶、文山包種綠茶。
	 自然楓蔬活坊 分機5636 養生拉麵、麵類、日式咖哩、韓式泡菜...等異國風味拉麵、義式肉排系列、義大利麵、養生煎飯、麵、粥、手工麵線等輕食蔬食健康、不加味精，用上好油烹調養生料理。	 1/2鬆餅廚房 分機5639 鬆餅、各式輕食、蛋糕、飲品、咖啡、世界風味料理、韓式石鍋拌飯、新加坡樂意湯麵、咖哩鮮菇炒餅、沙茶素牛肉燴飯、炸物、苔脆菇、地瓜酥、薑餅G、薯條...等。	 京記關東煮 分機5652 各式關東煮、筒仔米糕、甜不辣、壽司、素燥飯、燙青菜、湯、素肉羹、日式意麵、茶葉蛋、日式冷麵...等。

6 B1



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守護生命·健康·愛
Guard Life, Guard Healthy, Guard Love

Vegetarian Food Court







Vegetarian Food Court





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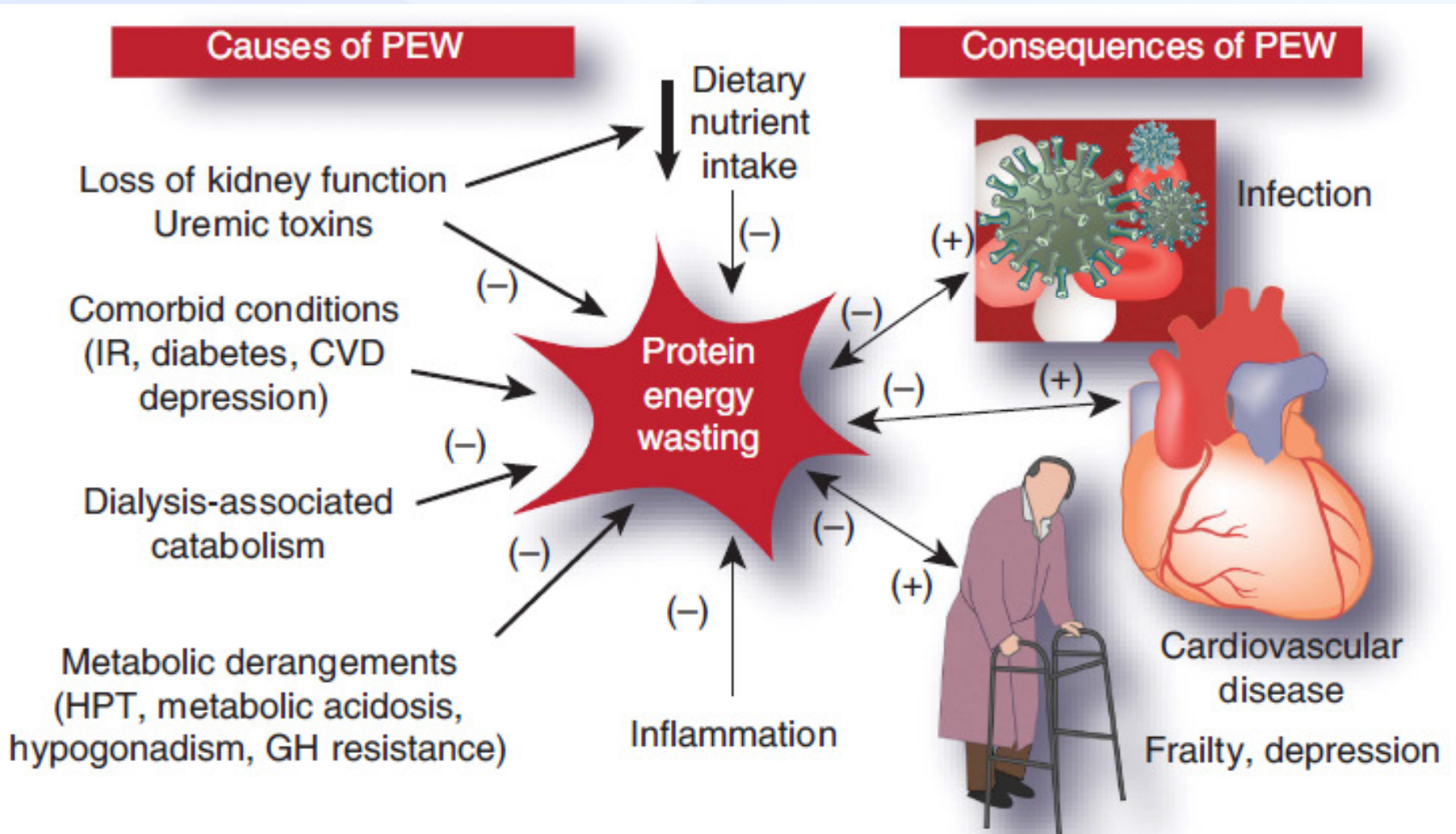
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**For our CKD outpatient,
we want to do more!**



Protein energy wasting (PEW)





Taiwan CKD

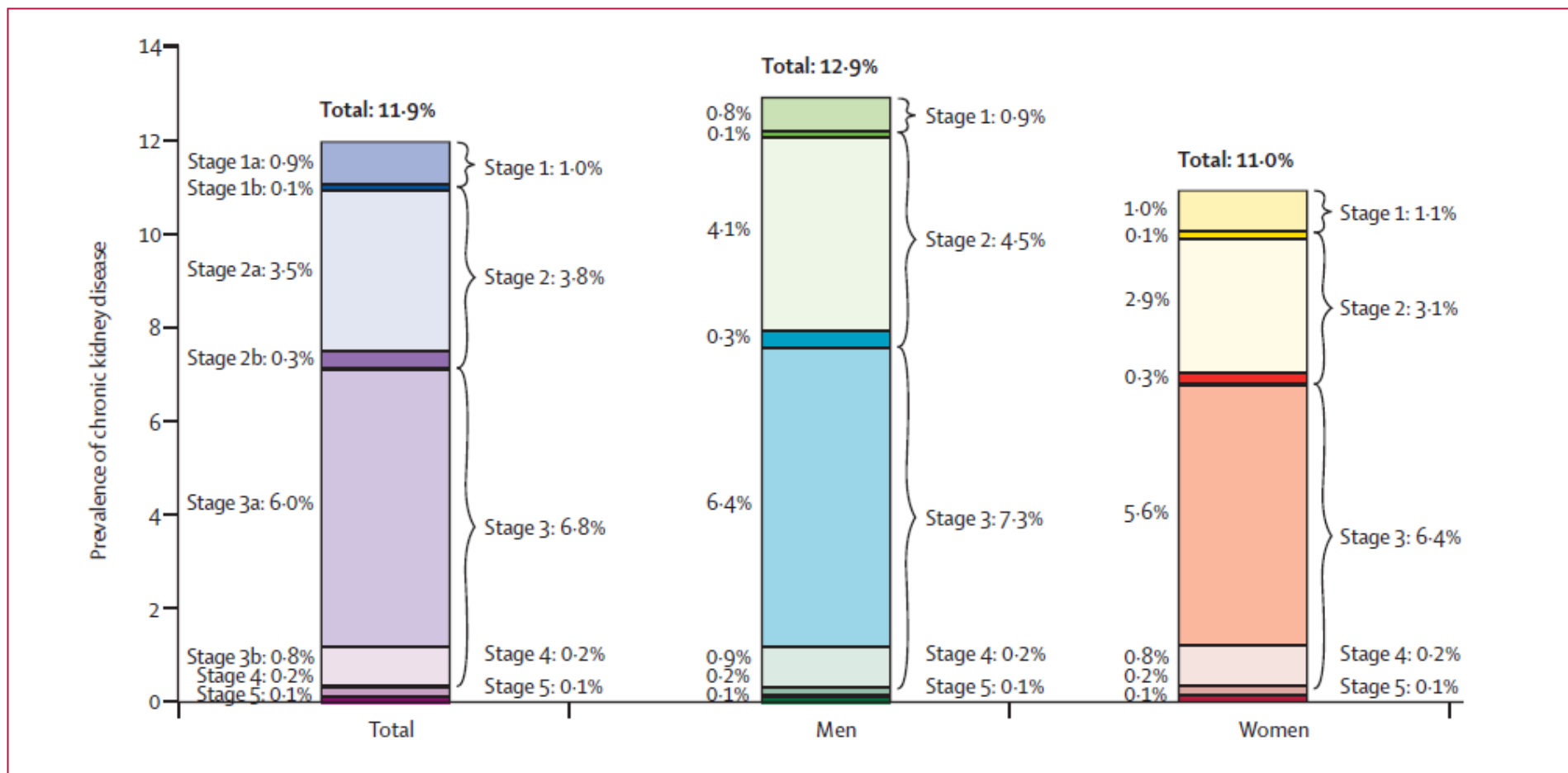


Figure 2: National prevalence of chronic kidney disease in adults in Taiwan



Taiwan CKD

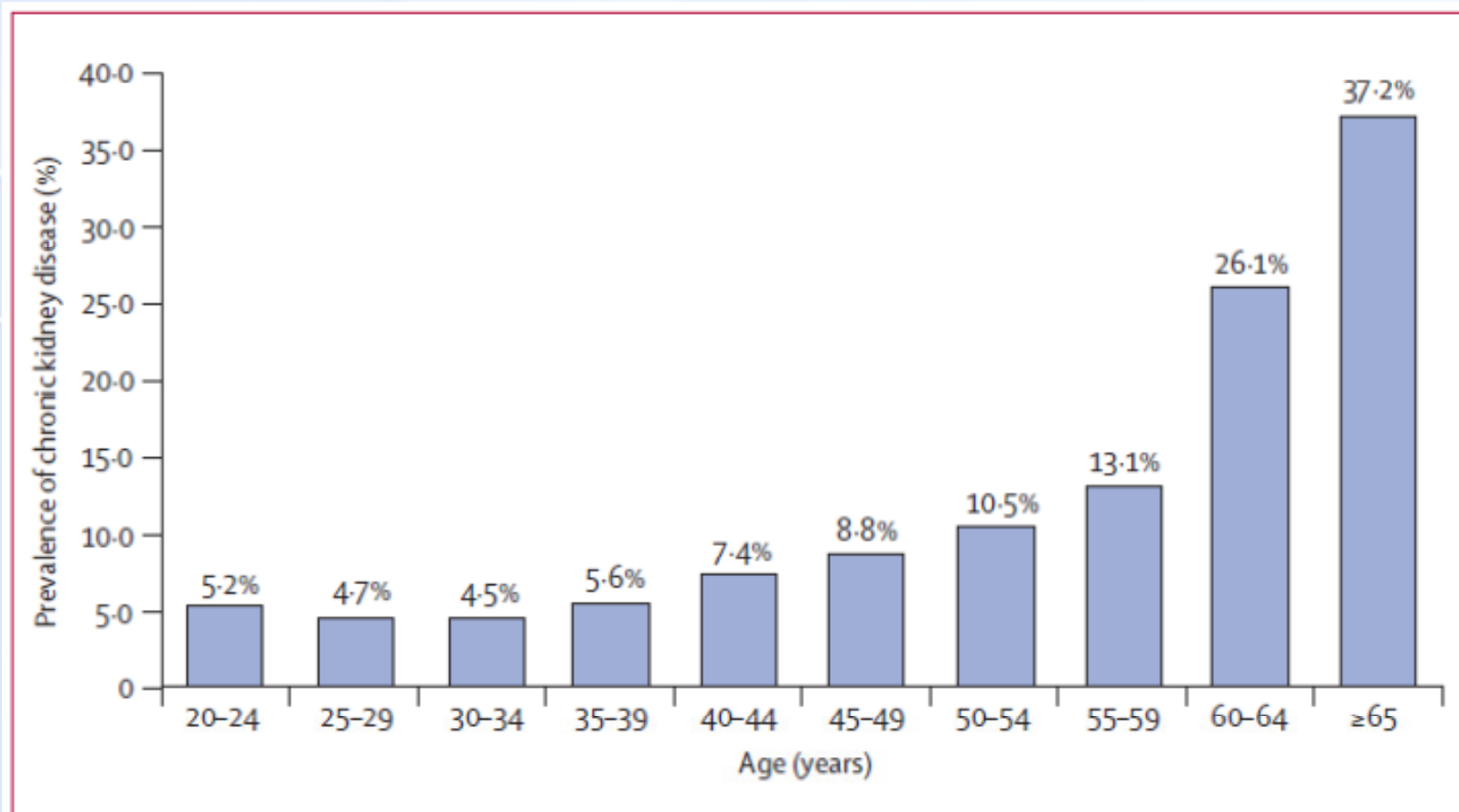
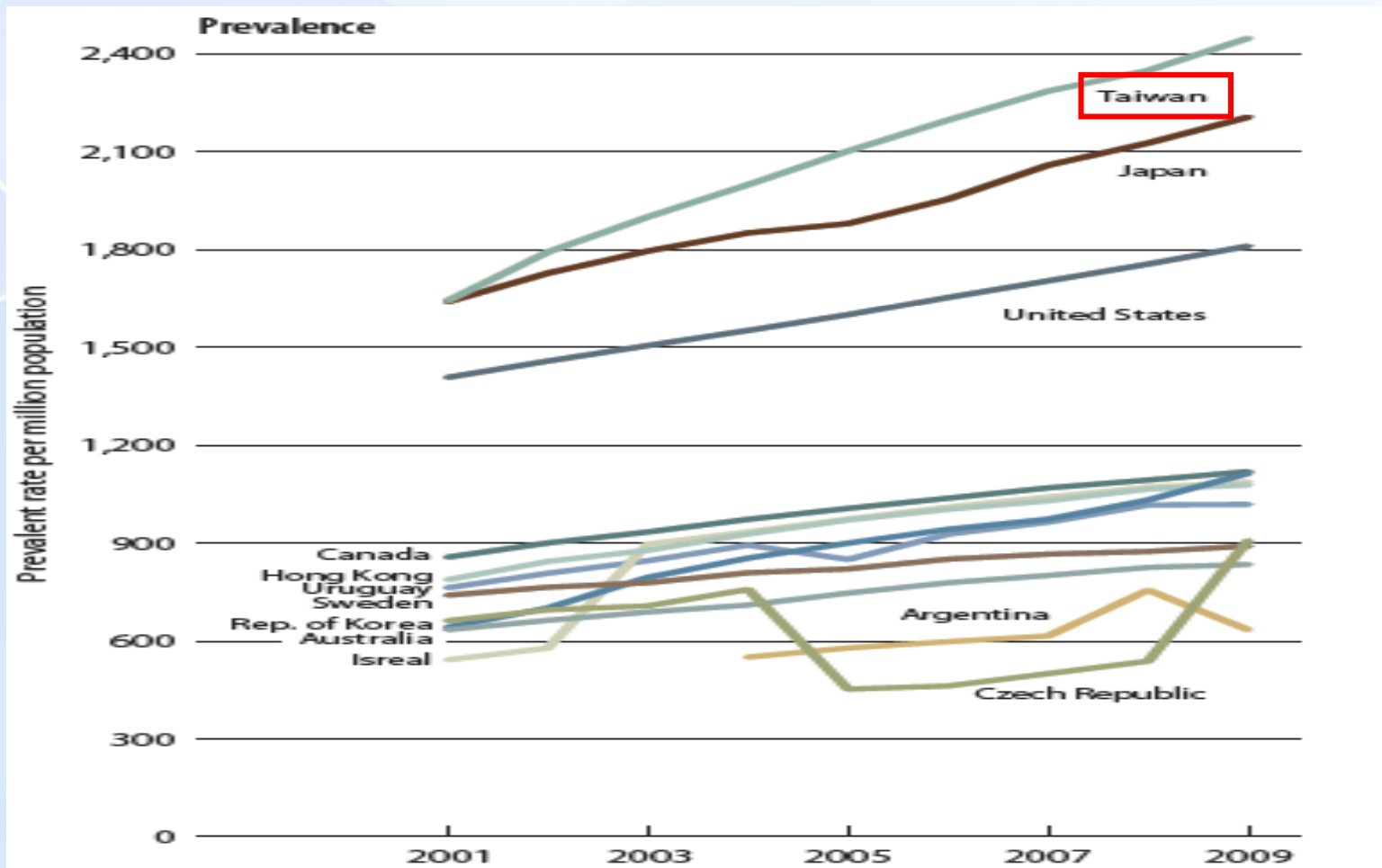


Figure 3: National prevalence of chronic kidney disease by 5-year age groups in adults in Taiwan

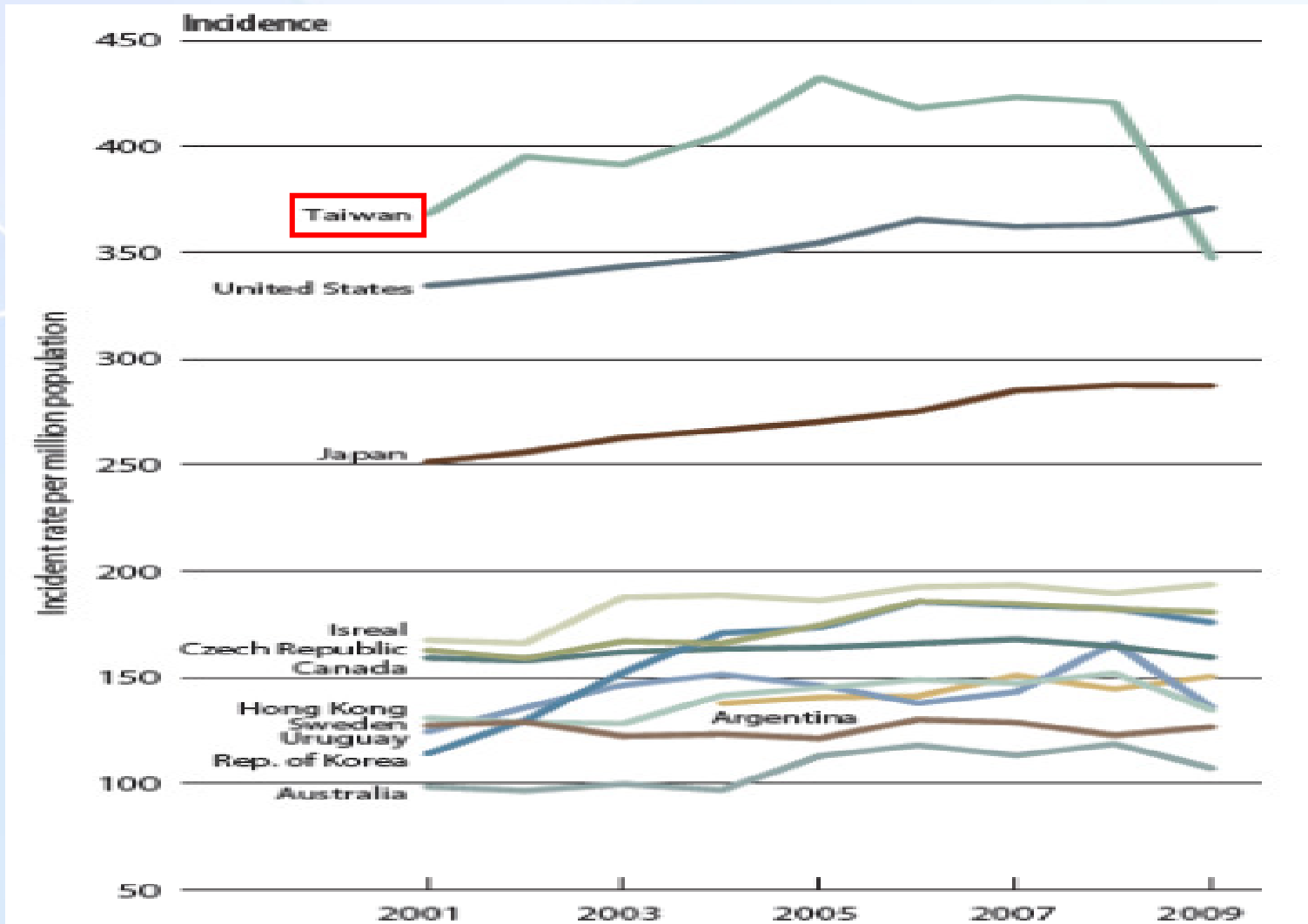


Prevalence of ESRD





Incidence of ESRD





Taiwan strategies

- Publish “the uncomfortable truth”
- TSN & BNHI & NHI work together
- Aristolochic acid Prohibition
- Intensive care program
 - Pre ESRD
 - Early CKD
- Multidisciplinary care



Pre-ESRD care program

- Nephrologists, nephrology nurse and dietitian
- Medical management
- Lifestyle modification
- Regularly follow up (Lab data)





The facts are...

Patients on low protein diets often have difficulty to meet nutritional requirements.

They have to use CKD-specific low protein supplements every day.





Low protein supplements

425 kcal/can
 10.6 g protein



242 kcal/bag
 3.9 g protein



200 kcal/bag
 0.6 g protein



Taiwanese traditional low protein materials

- Corn starch
- Sweet potato starch
- Tapioca
- Flat noodle
- Sago
- Grass jelly





Taiwanese traditional low protein food

**Bowl rice
cake**



**Pyramid
dumplings**



0.04 g protein per serving

Rice noodle



0.1 g protein per serving

Ba wan





Taiwanese traditional low protein food

Sago



Fen yuan



0.08 g protein per 100 g

Bubble Tea



We want to know...

There are various low protein supplements options

□ Compliance of CKD-specific supplements

□ Effect of current education



Objective

This study investigated Taipei Tzu Chi Hospital CKD outpatients' compliance with CKD-specific low protein supplement and determined the **factors which associated with the compliance.**



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Methods



Methods

- Patients in pre-ESRD care program with stage 3~5
- Among **1053 CKD patients**, **477** were recommended on CKD-specific low protein supplement daily
- A telephone interview (check **477 patients** for the low protein supplement use)
- Analyze the reasons for the noncomplier



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Results

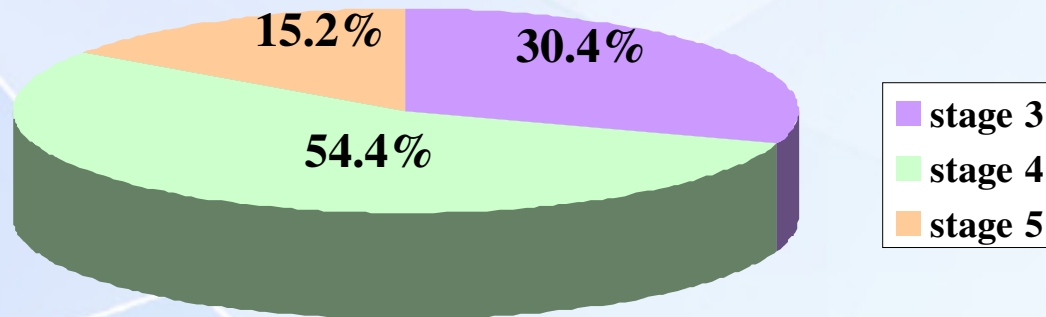


Table 1. Reasons for not using CKD-specific low protein supplements

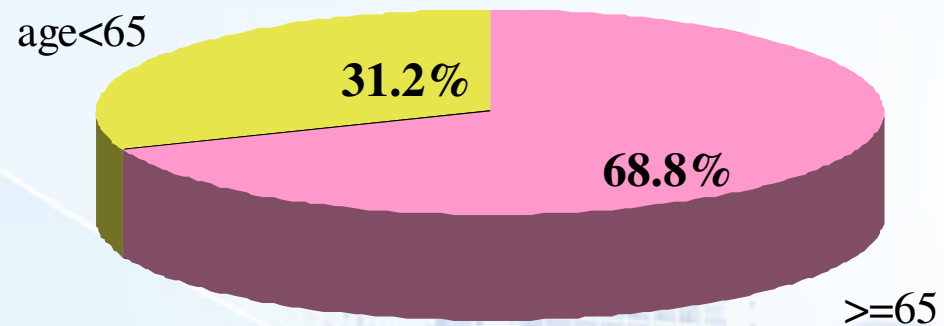
Reasons	No. (%) (n=125)
Patients had unclear with the concepts. (ex. Patients did not know the importance of eating supplements or ate the wrong supplements)	81 (64.8%)
Patients were affected by their families or lived alone.	26 (20.8%)
Patient dissatisfied with texture and taste.	6 (4.8%)
Preparing meals were inconvenience for patients.	4 (3.2%)
Patients forgot to eat supplements.	2 (1.6%)
Patients had side effects after eating supplements.	2 (1.6%)
Patients had no appetite recently.	2 (1.6%)
Patients had financial problem.	2 (1.6%)



CKD stage of noncomplier (n=125)



Age of noncomplier (n=125)





Think about it...

- Family support
- Education models







Conclusion

□ Renal protection

Reversible causes, ACEI/ARB, Bicarbonate, Lipid, Anemia...

□ Taiwan strategies

Multidisciplinary care, Aristolochic acid prohibition

□ Nutritional therapy

Low protein diet, provide CKD-specific low protein supplement education services to CKD patients along with their families to clarify patients' concepts and seek for better family support



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THANKS FOR YOUR ATTENTION!!

