DEPARTMENT OF HEALTH
BUREAU OF NUTRITION

Dietary Patterns and Nutritional Determinants of Healthy Ageing Among Community-Dwelling Older Adults

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Background

Population ageing, a global trend driven by advancements in public health and development, presents challenges like ensuring healthy lives, social protection, and active participation of older adults. This study explored dietary patterns and examined the relationship between nutritional determinants and healthy ageing, offering insights to enhance sustainable health and well-being.

Objectives

1. To analyze the synergistic interactions between social, nutritional, and behavioral factors associated with healthy ageing among Thai older adults, selected based on the Positive Deviance framework.
2. To identify and characterize phenotypes of healthy ageing, describe dietary patterns among older adults with healthy ageing in Thailand, and analyze their alignment with the Thai Food-Based Dietary Guidelines.

Methods

The study employed mixed-methods with concurrent quantitative and qualitative data collection, using a Positive Deviance-informed sampling strategy to recruit individuals ≥ 60 years from five districts with strong elderly networks and the highest proportions of those aged ≥ 90 years.

Data were collected using demographic questionnaires, a semi-food frequency questionnaire, and in-depth interviews, and analyzed using regression to determine odds ratios (OR) and adjusted odds ratios (AOR), with significance at p < 0.05

Results

Demographic data of all participants (N = 265)

96.6% Healthy ageing

Healthy ageing in this study is defined according to the WHO framework (Beard et al., 2016) as maintaining functional ability for well-being in older age

70.44 ± 7.35 years average age of participants

Healthy ageing criteria in this study :
1. ADL score ≥ 12
2. No frailty (Thai FRAIL Scale; 2022)
3. Chronic conditions well-controlled
4. Supportive environment: districts with high proportion of ≥ 90 y population, strong elderly networks, and active community health programs

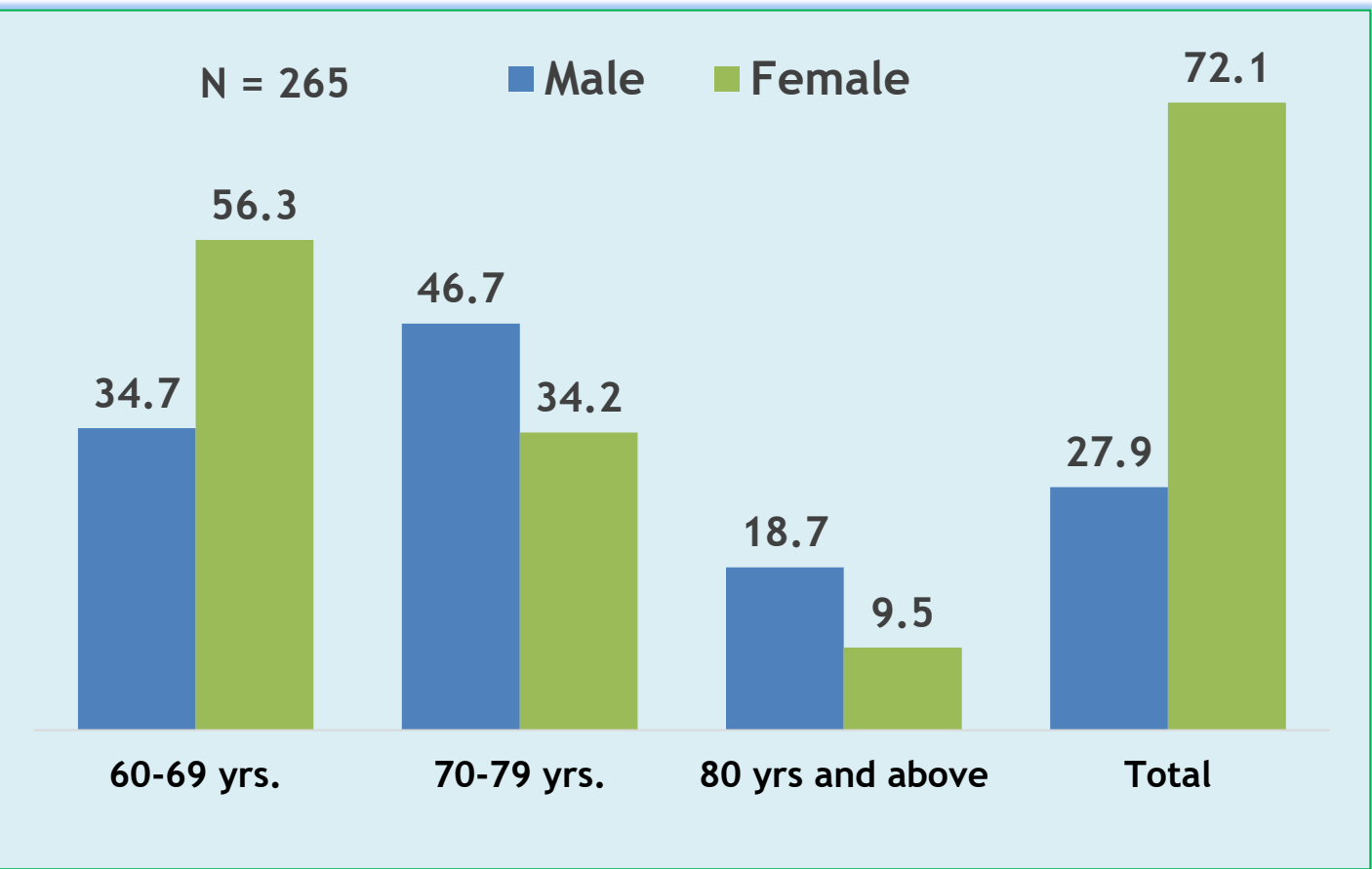**74.3 %** Charlson Comorbidity Index = 0
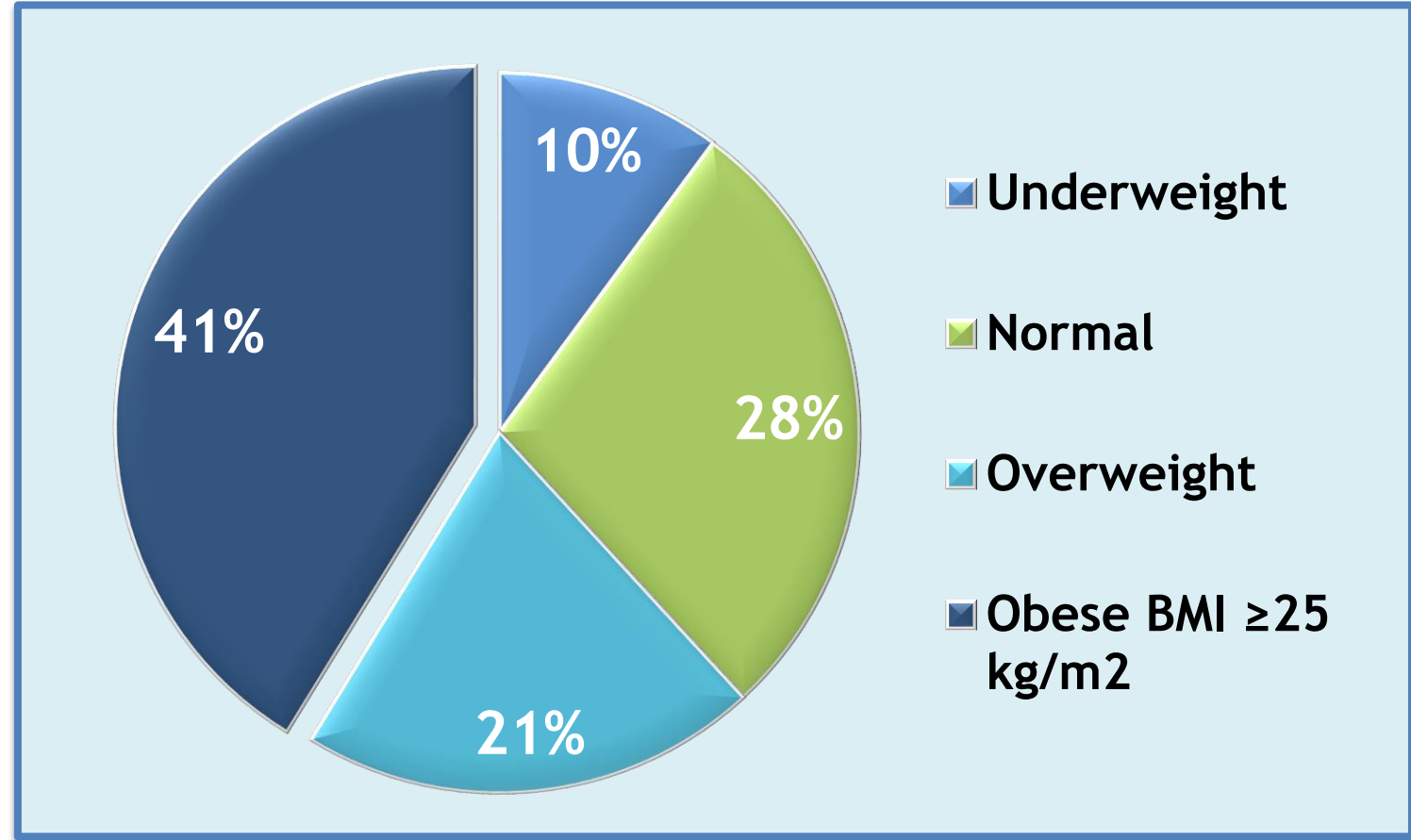

Figure 1: Population by age group (%)

Figure 2: BMI distribution (%)

Several factors were significantly associated with healthy ageing, including the absence of hypertension (OR = 15.12; P = 0.03), asthma (OR = 73.08; P < 0.01), Orthopedic diseases (OR = 9.31; P = 0.01), and community engagement (OR = 13.24; P = 0.03). After adjusting for age, sex, and education level, community engagement remained significant (AOR = 14.43; 95% CI: 1.91-109.21; P = 0.01).

Additionally, 41.7% of participants with healthy ageing demonstrated higher scores for good dietary behaviors, which were strongly associated with greater nutrition knowledge (AOR = 1.50, P = 0.03), positive attitudes (AOR = 3.37, P < 0.01), and food security (AOR = 2.42, P < 0.01).
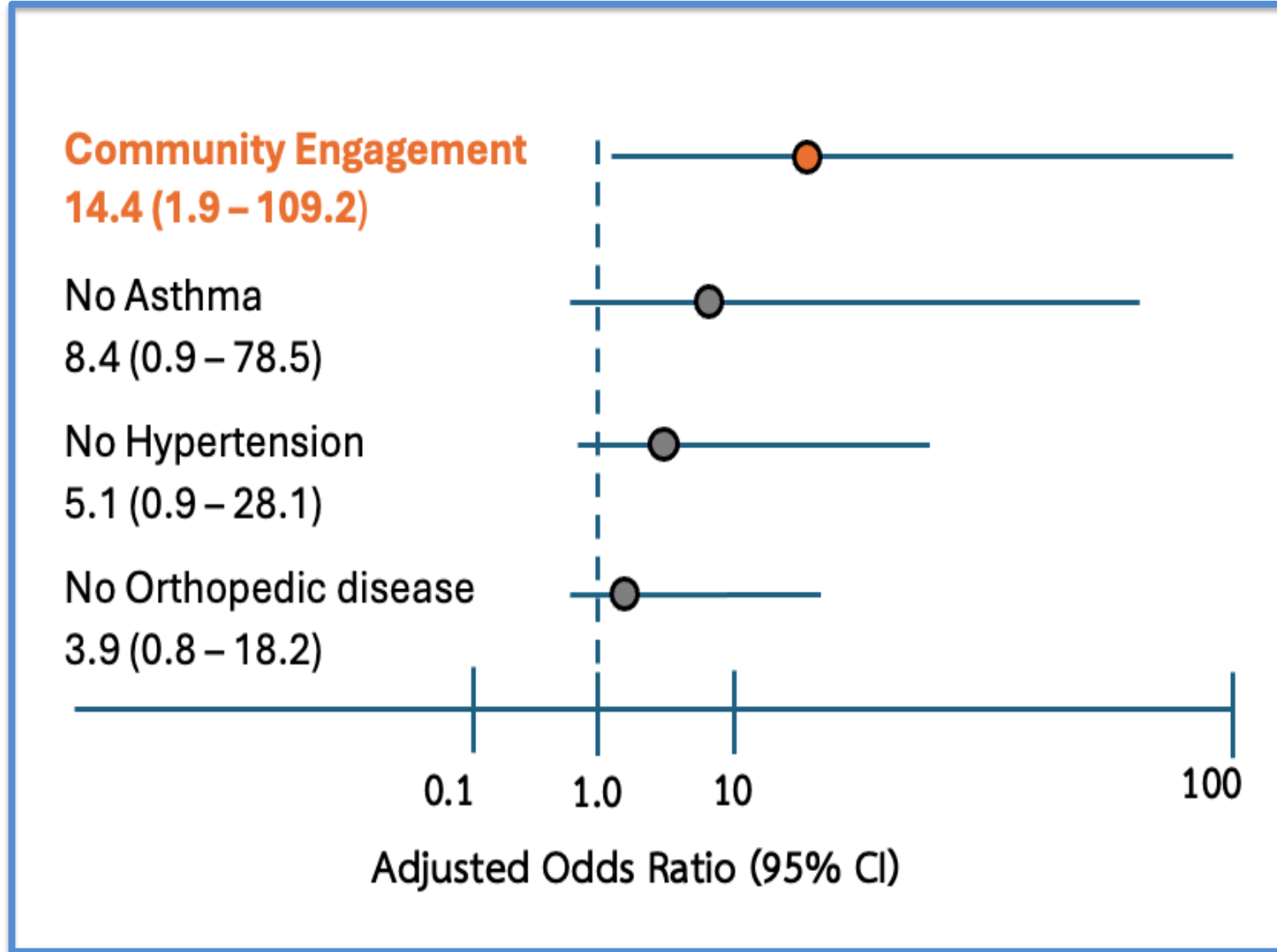

Figure 3 : Forest Plot of Adjusted Odds Ratios for Significant Factors

Figure 4: Diet patterns of Thai healthy ageing
* Eat natural flavors, without adding seasoning

DAILY
Eat rice as the main, especially brown rice and eat alternative starchy food sometime
Eat plenty of colorful vegetables regularly, particularly local vegetables
Eat less sweet fruits such as banana, papaya, and orange
Drink at least 7 glasses of plain water a day

WEEKLY
Eat pork and chicken 1-3 times a week
Eat fish at least 3 days a week
Eat 1-3 whole eggs a week

MONTHLY
Eat nuts and products once a month
Reduce milk consumption

AVOID
Processed foods
Alcoholic beverage

More information Thai FBDGs

Discussion

Healthy ageing in Thai older adults was associated with the absence of major chronic diseases, active community engagement—reflecting both physical and psychosocial dimensions aligned with the WHO framework—and dietary patterns rich in vegetables, fruits, brown rice, and fish with minimal processed foods, aligning with the Thai Food-Based Dietary Guidelines (FBDGs) and global models such as the DASH and Mediterranean diets, which are proven to reduce chronic disease risk and support longevity.

Notably, community participation emerged as a culturally specific factor in Thailand that may significantly influence healthy ageing. Positive nutritional knowledge, attitudes, and food security were also linked to healthier dietary behaviors, underscoring the role of nutrition literacy in sustaining long-term health.

Table 1: Logistic Regression of Factors Associated with Healthy Ageing

Factors	OR (95% CI)	Adjusted OR (95% CI)	P-value
Main effect			
Community engagement	13.24 (1.37-128.49)	14.43 (1.91-109.21)	0.01*
Charlson Comorbidity Score = 0	1.42 (0.36-5.54)		
No asthma	73.08 (3.54-1509.34)	8.35 (0.89-78.5)	0.06
No hypertension	15.13 (1.39-164.44)	5.14 (0.94-28.05)	0.06
No orthopedic disease	9.31 (1.72-50.36)	3.85 (0.81-16.23)	0.09
Adequate income	1.50 (0.07-30.47)		
Safe home environment	3.86 (0.75-19.76)		
Happiness score	10.15 (0.84-123.06)		
Nutrition Determinant			
Food security	0.58 (0.12-2.74)		
Oral health problem	2.68 (0.65-10.95)		
High nutrition knowledge score[†]	0.75 (0.14-4.05)		
High nutritional attitude score[‡]	0.95 (0.17-5.22)		
High nutritional behavior score[§]	7.67 (0.67-88.19)		

*P < 0.05 indicates statistical significance.
[†]Nutritional knowledge, [‡]attitude, and [§]behavior scores were classified into three levels: high (≥ 67th percentile), moderate (34th - 66th percentile), and low (≤ 33rd percentile).

Summary/Highlights

- Active community engagement as a culturally specific strength in Thailand.
- Healthy dietary patterns rich in vegetables, fruits, brown rice, and fish, with minimal processed foods.
- Alignment with Thai Food-Based Dietary Guidelines (FBDGs) and global healthy eating models (DASH, Mediterranean diets).
- Nutrition policies should focus on preventing chronic diseases, enhancing food security, and promoting balanced diets, supported by nutrition literacy.

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