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Background

- *Helicobacter pylori* (*H.pylori*) infection is one of known risks of gastric cancer.
- Success rates of current recommended first-line triple drug therapy has been declining in decades, partially due to poor drug adherence, smoking, drinking, and increasing *H.pylori* drug resistance.
- It is important to assess factors which may affect efficacy of *H.pylori* eradication therapy.

Objective

- We aimed to investigate the influence of foods or nutrients on *H.pylori* eradication therapy.

Methods

- A total of 4014 Japanese residents in Okinawa (age 30-79 years) were screened using *anti-H. pylori* antibody and ¹³C-urea breath test (UBT).
- Of 4014, 352 residents (147 men and 205 women) who were positive for both *anti-H. pylori* and UBT, and who received first-line triple drug therapy (lansoprazole 30mg, amoxicillin 750mg, clarithromycin 400mg/ twice daily).
- Result of the eradication therapy was assessed by UBT 8 weeks after completing therapy.
- Participants' demographic, serum parameters, and their food consumption pattern and estimated nutrients intakes based on a short food frequency questionnaire were assessed.
- Mann-Whitney *U* test or Chi-square test were used to compare between groups. Multivariate logistic regression analyses were performed to determine independent factors associated with success results of *H. pylori* eradication therapy.
- To select variables for the most parsimonious logistic regression models, a backward elimination procedure was utilized.
- Age, sex, and current smoking and drinking statuses were retained in all models which were considered to affect *H. pylori* eradication therapy.

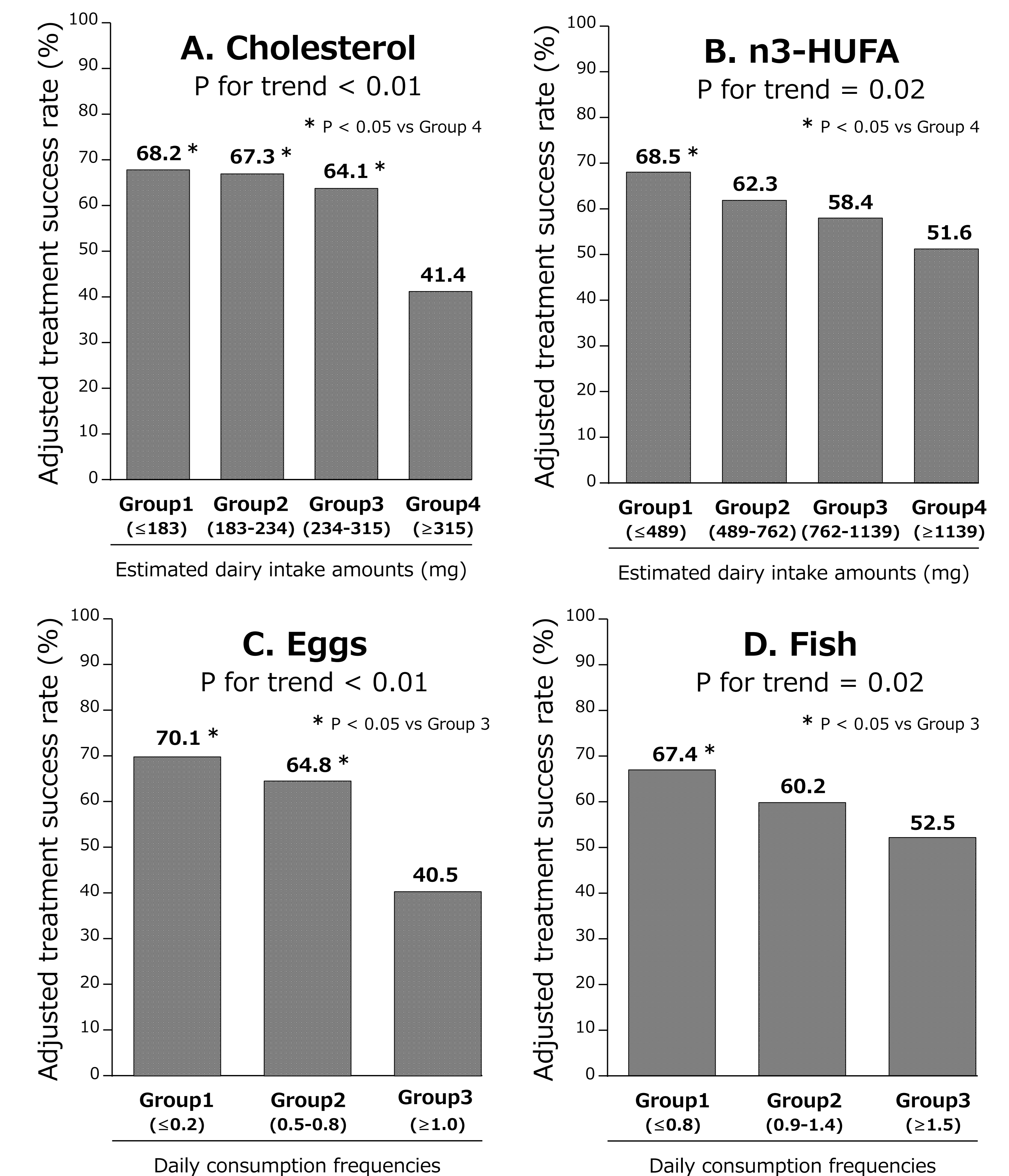
Results

Table. Parameters of participants

Factors	Success (n=212)	Failed (n=140)	P value
Demographics and characteristics			
Male, n (%)	94 (44.3)	53 (37.9)	0.27
Age (years)	62 [56, 68]	65 [59, 70]	0.02
Drinking, n (%)	92 (43.4)	58 (41.4)	0.80
Smoking, n (%)	33 (15.6)	19 (13.6)	0.72
Estimated nutrients intake amounts			
Total energy (kcal)	1669 [1500, 1922]	1669 [1412, 1919]	0.44
Carbohydrate (g)	234 [210, 271]	229 [197, 269]	0.17
Protein (g)	54.7 [47.6, 61.1]	55.9 [48.8, 64.2]	0.26
Fat (g)	46.9 [38.1, 54.4]	47.1 [40.2, 55.7]	0.55
Iron (mg)	7.2 [5.7, 8.4]	7.7 [6.3, 8.7]	0.02
Vitamin A (µgRE)	1086 [841, 1407]	1101 [844, 1451]	0.58
Vitamin B1 (mg)	0.61 [0.58, 0.69]	0.62 [0.57, 0.69]	0.68
Vitamin B2 (mg)	1.03 [0.87, 1.28]	1.12 [0.91, 1.30]	0.18
Vitamin C (mg)	84 [63, 113]	90 [71, 116]	0.11
Vitamin D (µg)	7.3 [4.9, 10.4]	8.7 [6.8, 11.5]	< 0.01
Vitamin E (mg α-TE)	9.2 [7.8, 10.9]	9.5 [8.0, 11.3]	0.23
Folate (µg)	329 [257, 415]	346 [287, 407]	0.31
Cholesterol (mg)	228 [181, 284]	259 [196, 328]	< 0.01
SFA (g)	11.8 [9.8, 13.4]	11.7 [9.5, 13.5]	0.97
MUFA (g)	17.0 [14.8, 20.1]	17.7 [15.4, 20.4]	0.29
PUFA (g)	15.1 [12.6, 17.4]	15.9 [13.6, 18.0]	0.048
n3-PUFA (mg)	2507 [2129, 2938]	2642 [2319, 3101]	0.04
n3-HUFA (mg)	755 [482, 1037]	831 [661, 1194]	< 0.01

SFA, saturated fatty acids; MUFA, monounsaturated fatty acids; PUFA, polyunsaturated fatty acids; HUFA, highly unsaturated fatty acids.

Figure. Multivariate adjusted success rates according to daily intake amounts or consumption frequencies



Conclusions

- Our data indicate higher cholesterol and n3-HUFA intakes and more frequent eggs and fish consumption may have negative impacts for *H. pylori* eradication therapy.
- Our results suggest modifying food consumption pattern potentially improve result of *H. pylori* eradication therapy.