

Supplemental Table 1. Composition of the low-protein rice and regular cooked rice

Chemical composition	Low-protein rice	Cooked rice*
Energy (kcal/100 g)	168.0	156.0
Moisture (g/100 g)	58.4	60.0
Protein (g/100 g)	0.1	2.5
Lipid (g/100 g)	0.4	0.3
Carbohydrates (g/100 g)	41.1	37.1
Dietary fiber (g/100 g)	<0.5	1.5
Ash (g/100 g)	<0.1	0.1
Sodium (mg/100 g)	1.6	1.0
Potassium (mg/100 g)	0.2	29.0
Calcium (mg/100 g)	4.9	3.0
Magnesium (mg/100 g)	0.9	7.0
Phosphorus (mg/100 g)	14.8	34.0
Iron (mg/100 g)	n.d.	0.1
Zinc (mg/100 g)	n.d.	0.6
Thiamin (mg/100 g)	n.d.	0.02
Riboflavin (mg/100 g)	n.d.	0.01
Niacin (mg/100 g)	n.d.	0.2
Vitamin B6 (mg/100 g)	n.d.	0.02
Pantothenic acid (mg/100 g)	n.d.	0.25

*From the Standard Tables of Food Composition in Japan 2020 (Eight Revised Edition) formulated by the Ministry of Education, Culture, Sports, Science and Technology, Japan. n.d., not detected.

Supplemental Table 2. Changes in protein, fat, and carbohydrate energy ratios and in animal and plant protein intake (from dietary records)

	Intervention	Baseline		Week 24		Between-group difference	
		<i>n</i>	Mean $\pm$ SD	<i>n</i>	Mean $\pm$ SD	Mean (95% CI)	<i>P</i> -value
Carbohydrate (%Energy)	LPR	48	62.5 $\pm$ 7.2	47	66.5 $\pm$ 6.1	1.7 (−0.5 to 3.9)	0.13
	Control	49	62.7 $\pm$ 5.9	47	64.6 $\pm$ 6.0		
Fat (%Energy)	LPR	48	24.0 $\pm$ 6.5	47	23.3 $\pm$ 5.5	0.3 (−1.6 to 2.2)	0.79
	Control	49	23.8 $\pm$ 5.4	47	23.1 $\pm$ 5.2		
Protein (%Energy)	LPR	51	13.6 $\pm$ 2.3	49	10.5 $\pm$ 2.5	−2.0 (−3.2 to −0.9)	<0.001
	Control	51	13.6 $\pm$ 2.2	50	12.5 $\pm$ 3.4		
Animal protein intake (g/day)	LPR	48	29.9 $\pm$ 11.7	47	23.9 $\pm$ 7.8	−1.1 (−3.9 to 1.6)	0.42
	Control	49	30.1 $\pm$ 10.0	47	25.4 $\pm$ 8.4		
Animal protein intake (g/kg IBW/day)	LPR	48	0.52 $\pm$ 0.20	47	0.42 $\pm$ 0.13	−0.01 (−0.06 to 0.04)	0.58
	Control	49	0.53 $\pm$ 0.18	47	0.44 $\pm$ 0.15		
Plant protein intake (g/day)	LPR	48	27.5 $\pm$ 6.5	47	20.0 $\pm$ 7.3	−6.8 (−9.7 to −3.9)	<0.001
	Control	49	27.0 $\pm$ 7.6	47	26.7 $\pm$ 6.8		
Plant protein intake (g/kg IBW/day)	LPR	48	0.48 $\pm$ 0.10	47	0.35 $\pm$ 0.12	−0.13 (−0.19 to −0.08)	<0.001
	Control	49	0.47 $\pm$ 0.14	47	0.48 $\pm$ 0.11		

CI, confidence interval; IBW, ideal body weight; LPR, low-protein rice; SD, standard deviation.

Supplemental Table 3. Changes in KDQOL-SF score

	Intervention	Baseline		Within-group difference		Between-group difference
		<i>n</i>	Median (IQR)	<i>n</i>	Median (IQR)	<i>P</i> -value
Physical functioning	LPR	51	95 (85–95)	46	0 (–1 to 5)	0.90
	Control	51	94 (80–100)	48	0 (–5 to 5)	
Role physical	LPR	51	100 (100–100)	46	0 (0 to 0)	0.51
	Control	51	100 (75–100)	47	0 (0 to 0)	
Bodily pain	LPR	51	90 (78–100)	46	0 (0 to 10)	0.13
	Control	51	90 (68–100)	47	0 (–10 to 10)	
General health	LPR	51	50 (40–60)	46	0 (–6 to 5)	0.32
	Control	51	50 (45–60)	48	0 (–5 to 10)	
Vitality	LPR	51	70 (60–80)	46	0 (–10 to 5)	0.86
	Control	50	70 (55–87)	46	0 (–12 to 5)	
Social functioning	LPR	51	100 (88–100)	46	0 (0 to 0)	0.61
	Control	51	100 (75–100)	48	0 (0 to 0)	
Role emotional	LPR	51	100 (100–100)	46	0 (0 to 0)	0.18
	Control	51	100 (67–100)	47	0 (0 to 0)	
Mental health	LPR	51	80 (68–92)	46	0 (–8 to 4)	0.36
	Control	50	80 (64–92)	46	0 (–8 to 8)	
Symptoms/Problems	LPR	51	93 (86–98)	46	0 (–5 to 2)	0.28
	Control	49	91 (84–98)	46	0 (–2 to 5)	
Effect of kidney disease	LPR	51	96 (91–97)	46	0 (–6 to 0)	0.06
	Control	50	94 (88–97)	46	0 (–3 to 3)	

Burden of kidney disease	LPR	51	69 (50–88)	46	–6 (–13 to 6)	0.18
	Control	51	75 (50–88)	48	0 (–6 to 9)	
Work status	LPR	51	100 (50–100)	45	0 (0 to 0)	0.28
	Control	51	50 (50–100)	48	0 (0 to 0)	
Cognitive function	LPR	51	100 (87–100)	46	0 (–7 to 7)	0.53
	Control	50	93 (87–100)	46	0 (0 to 7)	
Quality of social interaction	LPR	51	100 (87–100)	46	0 (–7 to 0)	0.06
	Control	50	93 (87–100)	47	0 (–7 to 7)	
Sleep	LPR	51	73 (63–85)	46	–5 (–13 to 3)	0.14
	Control	51	75 (60–83)	48	1 (–13 to 13)	
Social support	LPR	51	67 (67–100)	46	0 (0 to 0)	0.049
	Control	51	67 (67–100)	47	0 (0 to 17)	

IQR, interquartile range; KDQOL-SF, Kidney Disease Quality of Life-Short Form; LPR, low-protein rice.

Supplemental Table 4. Changes in laboratory tests

	Intervention	Baseline		Within-group difference		Between-group difference	
		<i>N</i>	Mean±SD or Median (IQR)	<i>n</i>	Mean±SD	Mean (95% CI)	<i>P</i> -value
Hemoglobin (g/dL)	LPR	51	13.0±2.0	49	−0.1±0.7	0.1 (−0.2 to 0.4)	0.39
	Control	51	13.1±2.0	50	−0.2±0.7		
Sodium (mmol/L)	LPR	51	141±2	49	0±2	0 (0 to 1)	0.32
	Control	51	140±3	50	−1±2		
Potassium (mmol/L)	LPR	51	4.5±0.5	49	0.0±0.4	0.0 (−0.2 to 0.2)	0.93
	Control	51	4.6±0.5	50	0.0±0.4		
Calcium (mg/dL)	LPR	51	9.2±0.4	49	0±0.3	0.1 (0.0 to 0.2)	0.26
	Control	51	9.2±0.4	50	0±0.3		
Phosphate (mg/dL)	LPR	51	3.5±0.5	49	0.1±0.5	0.0 (−0.2 to 0.2)	0.91
	Control	51	3.2±0.6	50	0±0.5		
Uric acid (mg/dL)	LPR	51	6.5±1.1	49	0.0±1.0	0.1 (−0.3 to 0.5)	0.56
	Control	51	6.5±1.1	50	−0.1±0.8		
Serum iron (µg/mL)	LPR	51	84±25	49	1±27	−3 (−15 to 9)	0.65
	Control	51	81±33	50	4±34		
UIBC (µg/mL)	LPR	51	206±49	48	6±36	11 (−4 to 26)	0.14
	Control	51	232±68	50	−5±38		
Ferritin (ng/mL)	LPR	51	83 (IQR, 38–181)	48	−8±38	5 (−13 to 22)	0.59
	Control	49	81 (IQR, 37–138)	48	−13±47		
C-reactive protein (mg/dL)	LPR	51	0.05 (IQR, 0.02–0.13)	49	−0.02±0.17	0.09 (−0.15 to 0.34)	0.45
	Control	51	0.06 (IQR, 0.03–0.14)	50	−0.11±0.86		

Intact PTH (pg/ml)	LPR	51	68 (IQR, 45–129)	49	2±29	−3 (−16 to 10)	0.67
	Control	51	79 (IQR, 54–113)	50	5±36		
1–84 PTH (pg/ml)	LPR	51	36 (IQR, 23–76)	49	6±18	1 (−6 to 8)	0.76
	Control	51	46 (IQR, 25–65)	50	4±18		
FGF-23 (pg/ml)	LPR	51	74 (IQR, 55–117)	49	17±43	14 (0 to 29)	0.058
	Control	51	75 (IQR, 53–106)	50	3±30		
1,25(OH)2D (pg/mL)	LPR	51	40±15	49	−1±12	2 (−3 to 7)	0.36
	Control	51	45±15	50	−3±13		
25(OH)D (ng/mL)	LPR	51	23 (IQR, 17–29)	49	1±6	1 (−2 to 3)	0.46
	Control	51	23 (IQR, 16–27)	50	0±6		
Bicarbonate concentration (mmol/L)	LPR	51	25.2±2.7	49	0.2±2.7	0.3 (−0.7 to 1.4)	0.52
	Control	51	25.1±2.8	50	−0.2±2.5		
Hemoglobin A1c (%)	LPR	51	5.7 (IQR, 5.6–6.1)	49	−0.1±0.4	−0.1 (−0.3 to 0.1)	0.27
	Control	51	5.8 (IQR, 5.5–6.2)	50	0.0±0.4		
Glycoalbumin (%)	LPR	51	14.1 (IQR, 13.1–16.6)	49	0.4±1.3	0.1 (−0.4 to 0.5)	0.83
	Control	51	14.3 (IQR, 13.1–16.2)	50	0.4±1.2		
Pentosidine (μg/mL)	LPR	51	0.062 (IQR, 0.054–0.086)	49	−0.006±0.085	−0.011 (−0.036 to 0.015)	0.40
	Control	51	0.062 (IQR, 0.049–0.084)	50	0.005±0.032		
MCP-1 (pg/mL)	LPR	51	287 (IQR, 253–329)	49	9±65	12 (−15 to 40)	0.38
	Control	51	290 (IQR, 255–367)	50	−3±73		

1,25(OH)2D, 1,25-dihydroxyvitamin D; 25(OH)D, 25-hydroxyvitamin D; CI, confidence interval; FGF23, fibroblast growth factor-23; IQR, interquartile range; LPR, low-protein rice; MCP-1, monocyte chemotactic protein-1; PTH, parathyroid hormone; SD, standard deviation; UIBC, unsaturated iron-binding capacity.