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Intake status of white rice, brown rice and black rice in South Korea: Korea National Health and Nutrition Examination Survey (KNHANES) 2010–2012

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Rice is a staple food in Korea. Traditionally, white rice has been the most valued commodity in Korea. Additions of brown and black rice have been introduced recently with an interest in health and nutrition. Black rice is reported to have a high anthocyanin level and an antioxidant capacity⁽¹⁾. Recently, as it has also been associated with a decreased risk of hyperlipidemia⁽²⁾, black rice has become more popular in the Korean diet. Yet there are few reports on the relative intakes of white, brown and black rice in Korea. Therefore, we decided to assess the intake status of white, brown and black rice.

This study was based on the data from the KNHANES conducted in years 2010, 2011 and 2012. We extracted food items from raw data obtained through 24-hour recalls. We assessed the intake of white, brown and black rice in the Korean population using ‘proc surveymeans’. All analyses were performed by using SAS statistical software (version 9.2; SAS Institute Inc., Cary, NC).

Daily white rice intakes were 177.2 g in 2010, 174.0 g in 2011 and 164.5 g in 2012. Daily brown rice intakes were 8.1 g in 2010, 5.3 g in 2011 and 6.7 g in 2012 where as daily black rice intakes were 1.8 g in 2010, 2.0 g in 2011 and 1.8 g in 2012. Additionally, intakes of three types of rice by age group (ages 2–7years, 8–12years, 13–18years, 19–65years, over 65years) were assessed. Intake of white rice showed an increase with increasing age. However, brown and black rice intakes were similar across age groups. Black rice intake overall remains very low. In addition, whole grain intake has increased slightly.

Type of Grain	2010(n = 8019)		2011(n = 7704)		2012 (n = 8019)	
	Mean	SE	Mean	SE	Mean	SE
Whiterice	177.2	2.2	174.0	2.1	164.5	2.5
Browrice	8.1	0.5	5.3	0.4	6.7	0.5
Blackrice	1.8	0.1	2.0	0.1	1.8	0.1
Wholegrain	27.8	1.4	27.8	1.3	30.5	1.4

Values represent all participants (2 years of age and over). Whole grain includes brown rice, black rice, corn, and other grains containing bran.

We suggest increasing proportions of brown rice, black rice and whole grains in general Korean diets. Black rice intake could be increased for improved health. However, it is difficult to consume black rice alone as it is not as palatable. There is a need to provide public with guidance on how to consume black rice or to develop commercial functional foods for general public consumption. We hereby recommend mixing increased amounts of black rice with white rice in general Korean diets.

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2. Salgado JM, Oliveira AG, Mansi DN *et al.* (2010) *J Med Food* **13**, 1355–1366.