

A study on the development of tailored food content and service for children's health

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1. Introduction

The health problems arising during childhood are closely related with food, and thus children's food intake is very important. For this reason, it is necessary to develop content that connects children's food intake with information tailored to food for children's health [1]. Thus, this research developed specialized content for children's health and provides a plan for its implementation.

2. Related researches

Thus far, there have been researches on nutriment education for children's food intake, media for diet education, children's eating habits, physical development, nutritional states, and so on [2-7]. Most of them have focused on education and nutrition, but there have been no researches developing content that provides information on food tailored for children's health.

3. Research method

3.1. Classification and design of the content

First, the content is classified into three categories: food ingredients, food itself, and the menu. Each category is then sub-classified again: for example, food ingredients are sub-classified into season, effect, region, and others. Table 1 shows the content classification.

[Table 1] Classification system for the food content for children's health

Classification	Sub-classification	Detailed information
Food ingredients	Season	Spring, summer, autumn, winter, and so on
	Effect	Growth, obesity, allergy food, and so on
	Region	Seoul, Gyeonggi-do, Chungcheong-do, Gangwon-do, and so on
	Others	Matters that require attention, the time and method of purchase, and so on
Food	Type	Staple foods, side dishes, desserts, and so on
	Recipe	Cooking process, cookware, roasting, parboiling, and so on
	Effect	Constipation prevention, and so on
	Nutrition information	High-calorie, low-sodium, and so on
	Others	Matters that require attention, time and method of intake, and so on
Menu	Quantity of intake	Quantity of intake per one time, quantity of intake per meal, and so on
	Time	Menu for a meal, menu for one day, menu for a month, menu for one season, and so on
	Standard of nutrition intake for one day	Calorie, carbohydrate, protein, fat, vitamin A, and so on
	Place and situation	Eating out, eating between meals, menu for holidays, and so on
	Others	Matters that require attention when making a menu, and so on

3.2. Building a DB for the food content

The DB of the food content is classified into three categories: food ingredients, menus(according to the types of foods), and recipes. Figure 1 shows the details.

In the DB, there are 305 food ingredients in total, which are sub-classified into 25 categories, such as meat(Suyuk), poultry, eggs, and fish. In addition, there are 2,053 menus(according to the types of foods) in total, which are sub-classified into 22 categories, such as the kinds of cooked rice, the kinds of rice porridge, and the kinds of noodles. There are 77 recipes in total, which are sub-classified into 6 categories, such as basic cooking, heating, and processing.

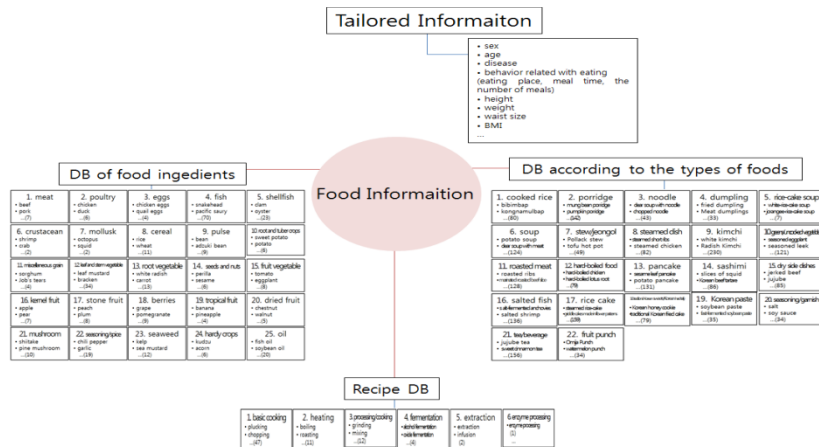


Figure 1. DB of the tailored food content for children health

3.3. Plan for the content service

The content can be made into a smartphone application that users can access at any time or location, or into a Webpage using the HTML framework [8].

4. Conclusion

This research classified tailored food information for children's health and set up content based on this information. Correct information related with children's health can be provided and used for other food researches.

5. References

- [1] Kim CI, "The review and task of e-content for the nutritional education of the children", Korea Contents Association, Vol.10, No.3, 2012, pp.12-18
- [2] Kim SM, Hong KH, Um MY, "Development of Food Replicas as Dietary Education Materials for Children", Korean Society of Food Culture, Vol.27, No.5, 2012, pp.434-444
- [3] Yu KH, "A study of the Dietary Behaviors, Physical Development and Nutrient Intakes in Preschool Children", The Korean journal of nutrition, Vol.42, No.1, 2009, pp.23-37
- [4] Ha JY, IM JT, "The Development and Application of a Diet Education Program for Children", The Journal of Korea Open Association for Early Childhood Education, Vol.11, No.4, 2006, pp.215-240
- [5] Song YO, Kim EH, Kim M, Moon JW, "A Survey on the Children's Notion in Kimchi (II)-Children's Opinions for Kimchi and Their Actual Consuming Behavior-", Journal of the Korean society of food science and nutrition, Vol.24, No.5, 1995, pp.765-770
- [6] JT Cook, DA Frank, SM Levenson, NB Neault, TC Heeren, MM Black, C Berkowitz, PH Casey, AF Meyers, DB Cutts, M Chilton, "Child Food Insecurity Increases Risks Posed by Household Food Insecurity to Young Children's Health", The journal of Nutrition, Vol.136, No.4, 2006.04, pp.1073-1076
- [7] PH Casey, K Szeto, S Lensing, M Bogle, J Weber, "Children in Food-Insufficient, Low-Income Families Prevalence, Health, and Nutrition Status", Arch Pediatr Adolesc Med, Vol.155, No.4, 2001, pp.508-514
- [8] Seok HT, "Hybrid Web App Development for Eye movement at Mobile Devices", The Journal of The Institute of Internet Broadcasting and Communication, Vol.13, No.6, 2013, pp.249-254