

FRIENDLY COMPUTER PROGRAM FOR SCHOOL TO SELF-EVALUATING LUNCH NUTRIENTS QUALITY THROUGH THE SIMPLE TEN POINT SCORES



Uraiporn Chittchang and Orapin Bunjong Institute of Nutrition, Mahidol University, Nakhon Pathom, Thailand

Introduction

The meal quality goals in nutritive values format are too difficult to use for non-nutrition back ground persons. So most of school lunch menus and lunch quality were based on cooking skill. Technique supports for improving school lunch quality were necessary. The food quality and pattern were evaluate for developing School Lunch Standard Recommendation in Food Based Dietary Guideline format in 2006. Recommended recipes were developed. Next step is developing simplify technique to support teachers for self-evaluating menus plan.



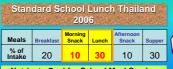
Objective

To improving school meals which energy and important nutrients inadequate, computer program for supporting self-evaluating menus plan at school level was developed.

School Lunch Standard Development











Score System

Nutrient Score Factor

1 score = 40% of Thai's DRI 2003

Recipe Nutrient Score

= Nutrient content per serving Nutrient Score Factor

Criteria of nutrients quality levels
for scoring recipe evaluation

	Quality Level								
Nutrients	should improve	quite poor	fair	good	very good				
Macro-nutrients	< 9	9	10	11	12				
(Energy, Protein, Fat)									
Dietary fiber	< 7	7-8	9-10	11	12				
Vitamins & Minerals	< 7	7-8	9-10	11	12				
Notice of the same									

ote: 12 scores = 40% and 10 scores = 1/3 of Thai's DRI 9 scores = 90% and 7 scores = 70% of 1/3 of Thai's DRI

Results

- The "School Lunch Menus and Recipes Management" program for self-cycle menu planning was developed and post on Thai Research Fund's and Institute of Nutrition's websites
- It supports calculating the raw materials and estimated budget according to number of consumers.
- User able to choose prepared weekly menus or selfdesign.
- Sixty menu sets which average score of weekly menu were met all nutrients goal within the budget were demonstrated.
- Recalculating the budget for the same menu sets cause of food price crisis in 2008 indicated that need increasing 30% budget.

Conclusions

- The program was trial in the pilot schools of Progressive School Nutrition Project.
- Government approved increasing lunch budget 30%.

Methods

- The 40 % of Dietary Reference Intake for Thais 2003 (Thai DRI 2003) were nutrients goal.
- Ten point scores were replaced scientific units of nutrients.
- * Recommended recipes of popular menus were developed.
- The nutrients quality of each recipe was present in score system.
- The mathematical model for self-matching menus set was designed.

School Lunch Menu Management Program

The school lunch menu management program was developed by

Teachers who have responded school lunch



Key in the number of consumer.
 Select default or self design menus.





Default suggested weekly menu.

Manu Set for Monday to Friday.

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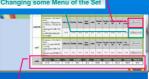
Present nutrient scores of each day.



5. Changing menu for new set or item.

Selecting new Menu Set

Changing some Menu of the Set



New Average Weekly Nutrient Scores

6. Amount and budget of ingredients



according to No. of Consumer for each Day

Nutrient Scores of 12 Weekly Cycle Menus (Mean and SD)

Energy	Protein	Fat	Ca	Fe	VA	VB1	VB2	vc	DF
11.3	12.3	11.7	9.6	8.8	18.3	12.8	24.9	22.6	7.8
0.4	0.4	0.8	0.4	1.8	6.0	2.3	2.0	11.1	0.3

Budget Management



Budget for Ingredients

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