Development of 2018 FNRI Menu Guide Calendar (MGC): Focusing on energy and nutrient needs of older persons through Pinggang Pinoy


INTRODUCTION

- The inevitable effects of aging on nutrition among persons 60 years and over can be observed in changes in sensory impairment like decreased sense of taste and smell, impairment or loss of vision and hearing and dental problem. These can lead to impaired appetite, decreased physical ability and poor quality diet. Eventually, the effects brought by the changes can lead to progressive undernutrition.

- Older persons need balanced and adequate diet that can be met through a practical selection of a wide variety of food.

- The Pinggang Pinoy for Older Persons offers food group proportion to allow nutrient needs to be met by choosing the appropriate serving size of food.

- Thus, the Project aimed to develop the 2018 FNRI Menu Guide Calendar (MGC) for older persons. The specific objectives are to develop and test acceptability of recipes from Pinggang Pinoy proportion for older persons; to formulate a 4 week 7-day cycle menus; to develop, pretest and publish a calendar; and to serve as guide for older persons to eat a variety of food from the Go, Grow & Glow groups using the Pinggang Pinoy model.

MATERIALS AND METHODS

- Two separate focus group discussions (FGD) among male and female older persons (n=19, mean age=66) were initially conducted to determine food preferences and perceptions and suggested calendar layout.

- Older persons from MIRDC, ITDI, FNRI and a nearby barangay were selected by purposive sampling.

- Based on the FGDs, recipes and a 4-weekly 7-day cycle menus were conceptualized. A two-level recipe development and standardization process was conducted.

- Recipes were evaluated by FNRI sensory panelists (n=10, N=50) using 9 point hedonic rating scale. Energy and nutrient content of recipes were estimated using the FCT + Menu Eval software. Health and nutrition articles were developed.

- Following this, a 2-stage pre-testing (key informant interviews and focus group discussions) were conducted among nutrition experts and target users to determine the calendar’s attractiveness, comprehension, acceptability and self-involvement.
MATERIALS AND METHODS

Figure 1. Procedure for recipe development and sensory evaluation

- Conduct Focus Group Discussion
- Organization/Modification of recipes for testing
- Recipe testing
  - Sensory evaluation
    - Consolidation of sensory evaluation results
    - Estimation of energy & nutrient content per serving and costing
    - Photo-documentation
    - Review, editing and finalization of recipes
  - Reject
  - Eliminate recipe
  - Accept

- 2-3 trials

Figure 2. Procedure for the development of the MGC 2018

- Conduct recipe development and sensory evaluation
- Plan 4 weekly 7-day cycle menus
- Submit consolidated output to TDSTSD
- MANCOM review
- Revision and finalization of calendar
- Print calendar
- FRDG
- TDSTSD
- Conduct recipe development and sensory evaluation
- Prepare nutrition articles, and health tips for older persons
- Prepare messages for the DOST Secretary and FNRI Director
- Conceptualize, prepare layout, print dummy calendar, TECCOM review, pretest calendar (FGD & KII among experts and users)
Table 1. Mean hedonic rating of two trials of recipe testing and sensory evaluation of recipes according to overall liking and cost per serving

<table>
<thead>
<tr>
<th>Monthly Feature</th>
<th>Recipe No.</th>
<th>Recipe Name</th>
<th>Mean Hedonic Rating ± SD</th>
<th>Cost per Serving PhP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>First Trial (n=10)</td>
<td>Second Trial (n=50)</td>
</tr>
<tr>
<td>Jan</td>
<td>1</td>
<td>Stir-fried chicken with pechay Baguio and carrot</td>
<td>8.0 ± 0.94</td>
<td>8.0 ± 0.74</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Paksiw na bangus with ampalaya at talong</td>
<td>8.0 ± 0.67</td>
<td>7.7 ± 1.0</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Inihaw na galunggong</td>
<td>7.7 ± 0.82</td>
<td>7.6 ± 0.86</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Pinakbet</td>
<td>8.2 ± 0.63</td>
<td>7.9 ± 0.81</td>
</tr>
<tr>
<td>Apr</td>
<td>5</td>
<td>Inihaw na bangus</td>
<td>8.2 ± 0.79</td>
<td>8.3 ± 0.56</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Ginataang kalabasa at saluyot</td>
<td>7.7 ± 0.82</td>
<td>8.0 ± 0.77</td>
</tr>
<tr>
<td>May</td>
<td>7</td>
<td>Sinampalukang manok</td>
<td>7.9 ± 0.57</td>
<td>7.7 ± 0.88</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Pork picadillo</td>
<td>8.2 ± 1.0</td>
<td>8.0 ± 0.78</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Miswa-patola soup</td>
<td>7.8 ± 0.92</td>
<td>7.6 ± 0.94</td>
</tr>
<tr>
<td>Jul</td>
<td>10</td>
<td>Sinabawang salmon</td>
<td>8.4 ± 0.52</td>
<td>7.8 ± 1.1</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Pan-fried chicken</td>
<td>8.3 ± 0.95</td>
<td>8.1 ± 0.74</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Dinengdeng</td>
<td>7.8 ± 0.79</td>
<td>7.9 ± 0.73</td>
</tr>
<tr>
<td>Sep</td>
<td>13</td>
<td>Fried tilapia</td>
<td>8.2 ± 0.63</td>
<td>7.8 ± 0.86</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Bulanglang</td>
<td>7.7 ± 1.1</td>
<td>8.2 ± 0.57</td>
</tr>
<tr>
<td>Oct</td>
<td>15</td>
<td>Sinigang na turcillo</td>
<td>8.1 ± 0.74</td>
<td>7.9 ± 0.83</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>Pesang Isda</td>
<td>7.9 ± 0.74</td>
<td>7.8 ± 0.73</td>
</tr>
<tr>
<td>Nov</td>
<td>17</td>
<td>Chicken hamonado</td>
<td>8.2 ± 0.79</td>
<td>8.2 ± 0.68</td>
</tr>
<tr>
<td>Dec</td>
<td>18</td>
<td>Corn and carrot soup</td>
<td>8.1 ± 0.74</td>
<td>7.9 ± 0.76</td>
</tr>
</tbody>
</table>

* 9 – Like extremely  8 – Like very much  7 – Like moderately  Range  7.7 - 8.4  7.6 - 8.3

- The DOST-FNRI menu guide calendar highlights 18 photo-documented recipes/combo meals from commonly available foods that meet the daily requirement on a per meal basis at affordable cost.
- The calendar also includes a 4-week cycle menu that encourages consumption of fruits and vegetables, and health and nutrition articles.
- Pre-test results from Focus Group Discussion and Key Informant Interview among nutrition experts and intended users showed the calendar’s rating of very satisfactory to excellent based on the calendar’s attractiveness, comprehension, acceptability and self-involvement.

CONCLUSION AND RECOMMENDATION

- This table shows the recipes/combo meals as they appear in the monthly feature in the calendar.
- All eighteen (18) recipes comprising of 6 one-dish meals and 6 sets of combo meals passed the acceptability test using the 9-point Hedonic Rating equivalent to Like Moderately to Like Very Much.
- Cost per serving shows the price range from a low PhP7.70/serving of a vegetable dish to as high as PhP57.30/serving of a one-dish meal. The cost varies depending on the seasonality of some ingredients and the prevailing cost of commodities.
- The calendar features recipes/meal combinations and cycle menus recommended for daily nutritional needs of the Filipino older persons.
- It may serve as a reference for older persons, homemakers, caretakers, health/nutrition workers and food providers at home/institutions in planning appropriate meals. It is downloadable for wider audience reach.