Cooperation of dietetic networking in health promotion and prevention of NCDs

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Presentation at the annual meeting of the Thai Dietetic Association

Bangkok, 22 April 2019
Presentation Outline

• Introduction
• Food, nutrition and related diseases (NCDs)
• Roles of dietitians
• Networking of dietitians and with others
• Conclusion
Main factors for good health & well-being

- Genetics
- Food and nutrition
- Mental well being
- Physical activity and exercise
- Avoidance of toxicants i.e. tobacco, alcoholic consumption and drug abuses
- Environment: physical, biological, chemical, social, economic & political
Nutrition is a link between food and health, regarding the fulfillment of energy, protein & micronutrients and other phytonutrients requirements from food in human life course.

Ultimate Goals

Good nutrition leading to good health and well-being
Global Development agenda

Millennium Development Goals (MDGs)
to be attained by 2015

Sustainable Development Goals (SDGs)
to be attained by 2030

Well-being for All
Food and nutrition challenges: DBM, NCDs & food quality and safety

- **Continuing and persistent undernutrition**
  - Undernourished (protein and energy deficiency) in children and adults including food insecurity
  - Micronutrient deficiencies: of iron, iodine, vit. A and others

- **Overnutrition and NCDs (diet related diseases)**
  - Overweight & obesity
  - Diabetes mellitus, high blood lipids, high blood pressure, cardio-vascular diseases
  - Cancers

- **Food safety and quality**

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DBM: a coexistence of under and over nutrition occurring in the same community or households or even in the same individuals
Prevalence of under/overweight adults
(FAO’s DBM study in 6 countries, 42% world population, 2006)

*India, rural areas only. South Africa whites only*

From: FAO, 2006
International Congress
Fetal Origins of Adult Disease:

“Barker” hypothesis: programming of function

During early life nutrient exposure sets metabolic behaviour and thereby determines the risk of chronic disease during adult life.
Scope of NCDs prevention

Source: Aboderin et al. (WHO/NMH/NPH/02.1)
Burden of disease attributable to 20 leading risk factors in 2010, as a % of global DALYs

From WHO’s presentation at SCN meeting 2013
**Stages of the Nutrition Transition***

Urbanization, globalization, economic growth, technological changes for work, leisure, & food processing, mass media growth

Stage 1  
Receding Famine  
- starchy, low variety, low fat, high fiber  
- labor-intensive work/leisure  

MCH deficiencies, weaning disease, stunting  
Slow mortality decline

Stage 2  
Degenerative Disease  
- increased fat, sugar, processed foods  
- shift in technology of work and leisure

Obesity emerges, bone density problems  
Accelerated life expectancy, shift to increased NCDs, increased disability period

Stage 3  
Behavioral Change  
- reduced fat, increased fruit, veg, CHO, fiber  
- replace sedentarianism with purposeful changes in recreation, other activity

Reduced body fatness, improved bone health  
Extended healthy aging, reduced NCDs

Prevalence of overweight and obesity in Thai population
Source: Bureau of Policy and Strategy (1996); Bureau of Policy and Strategy (2006); Aekplakorn et al (2011b)

Increase in prevalence of non-communicable diseases in Thailand
Source: Bureau of Policy and Strategy (2011)

Thai males consume fruit and vegetable daily only 268 g and females 283 (Aekplakorn et al. 2011)

Medical expenses for treating and managing NCDs were estimated at 140 billion Baht

Several organizations and agencies are conducting projects/programmes focusing especially on nutrition education and public campaigns.
Dietitians are expert in food and nutrition and help promote good health through proper eating. They also supervise the preparation and service of food, develop modified diets, participate in research, and educate individuals and groups on good nutritional habits.

*From Wikipedia*
The goals of dietetic department/unit are to obtain, prepare, and serve flavorsome, attractive, and nutritious food to patients, family members, and health care providers.

Types of dietitian include clinical or therapeutic, community, foodservice, research, administrative and business dietitians.
Challenging issues for dietitians

- Consequences of globalization and urbanization, and changes of food systems
- Demographic changes with the increase of elderly population
- Emerging and reemerging Infectious diseases: FBDs, HIV/AIDS..etcs
- Increased burden of NCDs: obesity, D.M, high blood pressure, CVDs and cancers
- Disasters: natural and man made
- Promotion of well-being and food culture
Global nutrition dynamics

The world is shifting rapidly toward a diet high in fat, sugar and salt linked with chronic non-communicable diseases (DCDs)
Key dietary dimensions

*Globally, diet is becoming increasingly energy-dense high in fat sugar and salt.

*Higher-fiber foods are being replaced by processed versions.

*Eating pattern shifts: increased portion sizes, away-from-home food intake, and snacking
Summary: Principal nutrient/food changes

Reduce

- Total fat
- Saturated Fats (C14, C16)
- Trans fatty acids (free)
- Refined starches
- Free sugars
- Sodium/salt
- Preserved meats

Increase

- PHYSICAL ACTIVITY
- Vegetables
- Fruits, legumes
- Fibre/NSP
- \( n - 3 \) fatty acids (EPA+DHA)
- Iron/iodine/Zinc
- Folate

Summary:<br>Principal nutrient/food changes
Food Systems in Thailand

Traditional Food Systems

• Food prod & supply mainly at household & community level.
• Small & medium food business
• Simple food preservation and processing techniques (e.g. smoking, sun drying, fermentation, salting)

Modern Food Systems

• Mass prod in large scale
• Apply Re, Sc & Tech & Innovation in food prod & processing
• Awareness of consumers on food safety, quality and nutrition for health
• Changes in food information and trade systems: labelling, supermarkets e-commerce

Contributions of both food systems to healthy agriculture, health diets & nutrition, healthy people and prosperity

Challenge

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3 key approaches for achieving strategic plan*

1. Multi-stakeholders approaches
2. Multi-strategic approaches
3. Multi-levels approaches
4. Along with outcomes based management, good governance and R&D, capacity building, and monitoring & evaluation

*Strategic plan: goals, targets and indicators
Strategies/ actions to prevent and control of malnutrition

1. Supplementation with micronutrients/food
2. Food fortification
3. Food regulation
4. Food and Nutrition education/communication
5. Food based approach: ensuring food security/consumption of safe and nutritious food
6. Public health measures: basic services, immunization, sanitation, water supply, deworming
7. Community based (integrated) approaches
8. Others: M&E, R&D, Capacity Building (CB)
Based on **scientific evidences** of the link between diet, nutrition and health in human life course

Promotion of **good practices** in agriculture, food supply and nutrition

Implement through agriculture, heath and education services system, and public
## Population nutrient intake goals
(FAO/WHO, 2003 expert report)

<table>
<thead>
<tr>
<th>Dietary factor</th>
<th>Goal (% of total energy unless otherwise stated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total fat</strong></td>
<td></td>
</tr>
<tr>
<td>Saturated fatty acids</td>
<td>15-30 %</td>
</tr>
<tr>
<td>Polyunsaturated acids (PUFAs)</td>
<td></td>
</tr>
<tr>
<td>n-6 PUFAs</td>
<td>&lt;10 %</td>
</tr>
<tr>
<td>n-3 PUFAs</td>
<td>6-10 %</td>
</tr>
<tr>
<td>Trans fatty acids</td>
<td>5-8 %</td>
</tr>
<tr>
<td>Monounsaturated fatty acids</td>
<td>1-2 %</td>
</tr>
<tr>
<td></td>
<td>&lt;1 %</td>
</tr>
<tr>
<td></td>
<td>By difference</td>
</tr>
<tr>
<td><strong>Total carbohydrate</strong></td>
<td>55-75 %</td>
</tr>
<tr>
<td>Free sugars</td>
<td>&lt;10 %</td>
</tr>
<tr>
<td><strong>Protein</strong></td>
<td>10-15 %</td>
</tr>
<tr>
<td><strong>Cholesterol</strong></td>
<td>&lt;300 mg per day</td>
</tr>
<tr>
<td><strong>Sodium chloride (sodium)</strong></td>
<td>&lt; 5 g per day (&lt; 2 g per day)</td>
</tr>
<tr>
<td><strong>Fruit and vegetables</strong></td>
<td>≥ 400 g per day</td>
</tr>
<tr>
<td><strong>Total dietary fiber</strong></td>
<td>From foods</td>
</tr>
<tr>
<td><strong>Non-starch polysaccharides (NSP)</strong></td>
<td>From foods</td>
</tr>
</tbody>
</table>

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泰国饮食指南

营养旗帜

主食-淀粉类
6-12份饭/天

蔬菜
4-6份饭/天

水果
3-5份/天

牛奶
1-2杯/天

肉类
6-12份/天

油、糖和盐
适量

为了健康
"吃各种食物在适当的量中"
Japanese Food Guide Spinning Top

Do you have a well-balanced diet?

Physical Activity

Water or less

for one day

5-7 SV Grain dishes
(Rice, Bread, Noodles, and Pasta)

5-6 SV Vegetable dishes

3-5 SV Fish and Meat dishes
(Meat, Fish, Egg and Soybean dishes)

2 SV Milk
(Milk and Milk products)

2 SV Fruits

Enjoy Snacks, Confection and Beverages moderately!

Japanese Food Guides

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Community-based approaches

- Is an integrated program implemented at local level (district level and below)

- National commitment with sound nutrition improvement strategies and goals

- Community actions: basic services, mass mobilization, mutual efforts/actions to reach all people and to prevent malnutrition
Community Based Program for Health Promotion

Minimum Basic Services
*(Health, Education, Agricultural Extension)*

Supportive System
- Training
- Funding
- Problem Solving
- Supervision

Interface
*(service providers and community leaders)*
- Plan/goals
- Implementation
- Monitoring/evaluation

Menu *(Activities)*
- Antenatal care
- Growth monitoring/promotion
- Elderly cares
- Cares of NCDs
- Food production
- Nutrition & dietetic education
- Food sanitation & safety
- Other activities (Tobacco and alcoholic consumption control)
- Recreation and physical activities
- Etc.

Community Leaders
Family
Individual

Minimum Indicators of well-being & NCDs

Facilitators

Volunteers (1:10 households)
## Nutrition Goals for Community Based Program

**Promote normal weight and height in life cycle**

<table>
<thead>
<tr>
<th>Age</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infants</strong></td>
<td></td>
</tr>
<tr>
<td>- avg. weight</td>
<td>2.5 - 3.5 kg (LBW≤ 5 %)</td>
</tr>
<tr>
<td><strong>Children under 5</strong></td>
<td></td>
</tr>
<tr>
<td>- Underweight</td>
<td>≤ 5 %</td>
</tr>
<tr>
<td>- Stunted</td>
<td>≤ 5 %</td>
</tr>
<tr>
<td>- Overweight and obese</td>
<td>≤ 5 %</td>
</tr>
<tr>
<td><strong>Children 5-18</strong></td>
<td></td>
</tr>
<tr>
<td>- Stunted</td>
<td>≤ 10% in 5 yr and ≤ 5 % (after 5 yr)</td>
</tr>
<tr>
<td>- Overweight and obese</td>
<td>≤ 10% in 5 yr and ≤ 5 % (after 5 yr)</td>
</tr>
<tr>
<td><strong>Teenage and adults</strong></td>
<td></td>
</tr>
<tr>
<td>- Overweight and obese</td>
<td>≤ 10% in 5 yr and ≤ 5 % (after 5 yr)</td>
</tr>
<tr>
<td><strong>Elderly</strong></td>
<td></td>
</tr>
<tr>
<td>- BMI</td>
<td>18.5 - 25.0</td>
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</tbody>
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Network: เครือข่าย เครือข่ายความสัมพันธ์

Networking: การสร้างเครือข่าย ทำความรู้จักกับคน
อาชีพเดียวกันและคนในแถวดังอื่น ๆ ในหลายสาขาอาชีพและ
ธุรกิจเป็นสิ่งสำคัญข่ายสร้างโอกาสซึ่งเป็นหัวใจที่นำไปสู่ความสำเร็จ

Networking: การสร้างเครือข่าย การเชื่อมโยงอย่างเป็นระบบ* กับคน
ที่เรารู้จักไปสู่คนอื่นที่คนเหล่านี้รู้จักโดยมีวัตถุประสงค์เฉพาะเจาะจงร่วมกัน
และแต่ละคนมีมันที่จะทำส่วนงานของตนให้ดีที่สุดโดยไม่คาดหวัง
ต้นจะได้รับอะไรตอบแทนนอกจากการทำงาน

*ใช้หรือไม่ก็ได้
Establishment of an effective and viable network of enterprise (UNIDO 1999)

1. Promotion and motivation
2. Strategic planning
3. Pilot projects
4. Strategic projects
5. Self-management

Various roles and functions of dietetics networking for health promotion and prevention of NCDs

- Depend upon types of dietitians include clinical or therapeutic, community, foodservice, research, administrative and business dietitians
- Dieticians require deep and broad professional knowledge, communication and education skills
- Management skill as well as digital or information technology are also needed
- Ultimate goals are well-being of people with good nutrition and health and prevention of NCDs
Conclusion

- Dietitians have an increasing and unique roles to play for achieving SDGs: good nutrition, health and well-being as well as prevention and control of NCDs
- Dietetics Networking will make collective efforts more effective and efficient outcomes than individual functions of dietitians on health promotion and prevention of diseases
Thank You for Your Attention