Nutrition in Workplace

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Background

- Workplace is a promising place for health promotion.
- It has been estimated that over 80% of the companies with 50 or more employees and almost all large employers offer some kind of health improvement programme.
- The workplace offers structure to reach large groups and social network that can be used.
Is it effective? Not necessarily, because:

(1) a low, selective participation,
(2) lack of adherence to the programme, and
(3) an intervention period too short for sustainable behaviour change.
Existing Systematic Review

- Shain and Kramer, 2004
- Hutchinson and Wilson, 2011
- Blake et al., 2013
- Montano et al., 2014
- Coffeng et al., 2014
- Schröer, Haupt, and Pieper, 2014
Main findings (Shain and Kramer, 2004)

- Health promotion programmes will only be effective in enhancing the health status of the workforce when the interventions attend to both individual and environmental influences.

- Focusing on personal health practices through programmes targeted exclusively at individual behaviour is likely to yield minimal benefits compared with interventions that also target the organization and design of work as key influences on health.

- A comprehensive approach to health promotion in the workplace is therefore one in which both individual and organisational influences on health are targeted simultaneously.
Main findings (Hutchinson and Wilson, 2011)

- The current meta-analysis found most support for workplace interventions that used **motivation enhancement** such as **motivational interviewing** or the **use of rewards**. Therefore, future interventions targeting the diet or physical activity of employees should incorporate this approach in their programmes.

- Interventions that were associated with **one main area of change** (e.g. diet OR physical activity OR health) were associated with larger mean effect sizes.

- In terms of study design, **randomized controlled trials** were associated with larger effects. **Long-term maintenance of changes** should also be evaluated in order to determine the extent to which workplace interventions can make sustainable changes to individuals' health.
Main findings  (Blake et al., 2013)

- This work demonstrates that workplace interventions are achievable in NHS workplace settings, and confer positive outcomes in those organisations where employers demonstrate a **commitment to health and wellness** that is fully integrated with their mission, values and long-term vision.

- However, to generate significant behaviour change in a range of target health behaviours, such schemes need to be **flexible** and continually **responsive** to its consumers; as such it should be recognised that wellness programmes require **continual adjustment** to alter the targeting of activities in response to user need.
Main findings (Montano et al., 2014)

- The meta-analysis of 36 randomized controlled worksite intervention studies revealed small, but significant effects on four relevant health outcomes: weight reduction, healthy nutrition, reduced musculo-skeletal symptoms, and lower levels of perceived stress.

- As only few studies were conducted among employees with lower socioeconomic standing, the challenge of reducing work-related health inequalities by targeting health-promoting activities at occupational groups with high needs remains largely unmet.

- Due to lack of statistical power, our study could not confirm a moderation of intervention effects by occupational class. Nonetheless, future research should aim at bridging worksite intervention research with scientific inquiry into social determinants of health.
Main findings  (Coffeng et al., 2014)

This study aimed to evaluate the effectiveness of combined worksite social and physical environmental intervention on several work-related outcomes, as well of both interventions separately. In comparison with the control group, statistically significant, but small, changes in contextual performance, dedication, task performance and absorption were found.

The interventions did not demonstrate a significant effect on presenteeism and absenteeism, but all of them were in the expected direction.

Some recommendations: engage mid level management (i.e. mid level managers/supervisors should integrate the health program into daily operations and communicate with employees to optimise participation; link health promotion objectives to business objectives and consider incentives and rewards.
Main findings (Schröer, Haupt, and Pieper, 2014)

- Workplace health promotion interventions may improve **physical activity, dietary behaviour** and **healthy weight**. There is no evidence of increased efficacy associated with specific intervention types.

- Workplace health promotion should focus on either **physical activity** or **weight** or **nutrition behaviour** to maximize effectiveness. Best evidence is available for multi-component interventions.

- Our review found that employees’ dietary behaviour could be influenced by workplace interventions based on **nutritional education solely** or **combined with environmental modifications**.

- Physical activity was increased by multi-component interventions including step counting, active commuting & organizational changes.

- **Multi-component programmes** were most effective in promoting a healthy weight among employees.
INDOFOOD NUTRITION
FOR WORKFORCE PROGRAM

CENTER FOR NUTRITION AND HEALTH STUDIES
UNIVERSITAS INDONESIA
Nutrition and health status of worker is key to industrial productivity. Good nutritional status relates to both physical and mental performances and directly related to morbidity and absenteeism.

Good nutrition also influence work safety. Lack of focus and concentration, less agility and less dexterity could be caused by malnutrition and could affect work-related injury.
Introduction (2)

- Nutrition program in workplace has not been paid sufficient attention so far in Indonesia. Workplace provide ample opportunity for effective nutrition intervention.

- Indofood committed to improve life quality of its workers through improvement of healthy lifestyle and creating workplace environment that enable workers to apply healthy lifestyle.
It is very important to have initial nutrition assessment:

- Baseline situation of nutrition perception
- Nutrition situation mapping
- Guide for program priorities
- Baseline to measure achievement

Includes:

- Health and nutrition status,
- Food consumption situation,
- Built environment situation, and
- Nutrition knowledge, attitude and practice
Objectives

- To compile, to analyze, and to describe nutrition and health situation in selected factories.
- To increase nutrition and health knowledge, attitude, and practice of workers.
- To develop program monitoring and evaluation based on evidences and reliable, valid measurements.
- To develop Lessons Learn Model as a sustainable knowledge management action.
Activities

4 activities:

1. Nutrition Assessment (Baseline and Endline Survey);
2. Main Intervention: Nutrition education for workers;
3. Modification of nutrition built environment; and
4. Development of mon-ev system and lessons learn model.
Nutrition Assessment (Baseline & Endline Survey) (1)

- Food consumption study
  - 2X24 hr recall
- Lab examination
  - Hb level
- Anthropometric
  - Weight
  - Height
  - Body fat
Nutrition Assessment
(Baseline & Endline Survey) (2)

- Medical history
  - MCU record
- Nutrition KAP Survey
  - Questionnaire
- Physical activity and fitness measurement
  - Daily activity
  - Fitness level
Main Intervention: Nutrition Education for Workers (1)

1. **Nutrition Seminars**
   Awareness raising seminar (1x @factory).

2. **Educator Training**
   Nutrition educator are graduates from nutrition higher education D3-S1 level.
Main Intervention: Nutrition Education for Workers (2)

3. **Peer Educator Trainings**
   25 peer educators in each factory (2x @factory).

4. **Peer Educator Refreshing Trainings**
   Recharging for peer educator and mon-ev data collection (4x@factory).
1. **Assessment of Food Consumption Environment**  
   Canteen, cafeteria, and other sources of workers’ food consumption

2. **Assessment of Healthy Lifestyle Environment**  
   Assessing healthy lifestyle supporting environment such as hand washing facilities, latrines, waste bins, etc

3. **Assessment of Lactation Support**  
   Assessing lactation situation among female workers and the supporting environment in workplace
Modification of Nutrition Built Environment (2)

4. Assessment of Fitness Facility
   Assessing fitness facilities and fitness activities provided in factory

5. Evaluation of Assessment Results
   To be concluded and followed up by management
Development of Monev System and Lessons Learn Model (1)

1. Monev system is developed for each activity using input, process, and output indicators

2. Final evaluation would assess objectives achievement including outcome indicators

3. Lessons Learn Model is developed by compiling success stories and failure stories as to make tacit knowledge and experiences to be more explicit and documented for future development.
Antropometry assesment training

Training for enumerators
Data collection’s activities in Factory 1

Interview and fill in questionnaires

Haemoglobin assessment
Nutrition seminars’ activities in Factory 2

Opening ceremony by Ibu Dwi

Opening ceremony by Factory 2’s representative

Ice breaking “Coconut”

Discussion
Preparing Lunch meals in the Canteen

Utensils' place

Utensils' place

Lunch sample menu
Meeting with Japan Ministry for Workforce & Industry and PT Indofood
17 November 2016
Results
Nutrition KAP
1. Increased Knowledge

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<th>Factory 3</th>
<th>Factory 4</th>
<th>Total</th>
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Note:
Minimum-Maximum score: 0-100
Number of question: 20
*) p-value < α (5%)

• In total, there was significant increase in knowledge score from 55.67 to 61.20
2. Slightly better attitude

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<th>Factory 4</th>
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Note:
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Number of question: 10
The highest the score, the better the attitude
*) p-value < α (5%)

Mean
3. Increased nutrition practices

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Note:
Minimum-Maximum score: 0-100
Number of question: 6
*) p-value < α (5%)

• In total, there was significant increase on nutrition practice score from 47.28 to 53.62
Healthy Lifestyle
## Increased Score of Healthy Lifestyle

**Based on Factory**

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<th>Factory 4</th>
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**Based on Employee Type**

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<th>Blue Collar (porter)</th>
<th>Blue Coll Operator</th>
<th>White Collar</th>
<th>Total</th>
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Note:
Minimum-Maximum Score: 0-100
Number of question: 8
The highest the score, the better the attitude
*) p-value < α (5%)

- In total, there was significant increase on score of healthy lifestyle. However, the score is considered low.
Slight decrease in smoking habit

Based on factory

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Based on employee type

<table>
<thead>
<tr>
<th>Type</th>
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<tbody>
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<td>Operator</td>
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<tr>
<td>White collar</td>
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<td>41.5</td>
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<tr>
<td>Total</td>
<td>53.7</td>
<td>51.4</td>
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</table>
Body Mass Index
The intervention was successful in decreasing IMT among White Collar employees but not among Blue Collar employees yet.
Haemoglobin
All employees, regardless of type, experienced increasing number of normal haemoglobin level.
Physical fitness
Respondents with good fitness level

Based on Factory

<table>
<thead>
<tr>
<th>Factory</th>
<th>Pre test</th>
<th>Post test</th>
</tr>
</thead>
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<tr>
<td>Total*</td>
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Based on Employee Type

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<thead>
<tr>
<th>Employee Type</th>
<th>Pre test</th>
<th>Post test</th>
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<tr>
<td>Blue collar/porter*</td>
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<td>89.1</td>
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<tr>
<td>Operator*</td>
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<tr>
<td>White collar*</td>
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<td>Total*</td>
<td>69.9</td>
<td>85.4</td>
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*) significant at $\alpha=0.05$

There was significant increase on physical fitness level
Conclusion

- Nutrition for Workforce Programme, in form of mass education and group education through peer educator, in three months, was successfully increase:
  - Knowledge on balanced nutrition,
  - Attitude towards nutrition,
  - Nutrition practices,
  - Normal haemoglobin level, and
  - Physical fitness.
- However, for BMI, the reduction was found among white collar employees but not among blue collar employees.
- Monitoring system provided early evidence on the process and effectiveness of the implementation. These, in turn, provided inputs for process and implementation improvement.
- Lessons Learn Model has been developed and revealed knowledge based on experience (from tacit to explicit).
Conclusion

**Need to be maintained:**

- Pre-post test
- Standardization of education material
- *Peer educator approach*
- Incentive/reward/recognition of *peer educator*
- Integration to factory management
- Evaluation for each factory
- Characteristics of NfW: Education, measurement and monitoring of nutritional status, employee empowerment
Conclusion

**Need to be changed:**

- Time constraints for peer education.
- Regeneration and new recruitment of peer educator
- Creative activities of peer educator
Thank You