Effects of Program Promoting Sodium Intake Reduction on Knowledge and Urinary Sodium in Nursing Students

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Significance

Powles, Fahimi et al., 2013

4,473-5,088 mg/d
Salt intake: cross country comparison

The recommended level of salt consumption of WHO is no more than 5 g/day.

<table>
<thead>
<tr>
<th>Country</th>
<th>All</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>8.3</td>
<td>6.4</td>
<td>5.8</td>
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<tr>
<td>Malaysia</td>
<td>9.6</td>
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<tr>
<td>US</td>
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<td>Canada</td>
<td>8.5</td>
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</tbody>
</table>

* Data obtained via 24-hr urine analyses, which is considered the “gold standard” method to estimate salt intake in the population.
* Data obtained through dietary surveys (generally tend to underestimate sodium intakes).

Health Promotion Board, 2011
Factors affecting consumption of food Containing sodium

Family

Environment

Institution/Community

Friends/social
Health consequences

- Hypertension
- Cardiovascular Disease
- Calcium & bone loss
- Renal infiltration

IGNORE
WHO set a goal to reduce morbidities and mortalities of the world population through sodium intake reduction by 30% within the year 2023, or no more than 2,000 mg of sodium intake per day (WHO, 2011).

However, most of nursing students (86%) had inadequate knowledge on food containing sodium and were at risk of high sodium consumption (Piaseu et al, 2009) as they stayed in dormitory with limited food choice.

As a change agent, nursing students should be promoted for sodium intake reduction to ensure appropriate food behaviors, and role models for the general public.
Research objectives

• To describe knowledge of sodium intake and urinary sodium in nursing students

• To compare knowledge of sodium consumption in nursing students at baseline, before, and after the experiment

• To compare urinary sodium in nursing students at baseline, before, and after the experiment
Design: Quasi experimental design: one-group self control

Sample: 173 second year undergraduate nursing students of 3 Schools of Nursing in Thailand

Instruments:
- Demographic questionnaire
- Knowledge of sodium consumption questionnaire
- Weighing scale, height meter, measures of blood pressure
- Laboratory for 12-hour urinary sodium
Research methods

Instruments:

- The 3-week program promoting food consumption for sodium reduction:
  - Three manuals for nutrition label on:
    1) dish food
    2) seasoning and processed food
    3) snack and beverages
  - Salinity checker
Strategies for behavioral modification: RAMA Model
- **R**aising awareness
- **A**iming at target outcome
- **M**obilizing change and innovation
- **A**ssuring synergy and sustainability
Data analysis

- Descriptive statistics
- One-way ANOVA with repeated measures
Demographic and baseline data:

- Majority of the participants were female (92.5%) with normal BMI (55.5%).
- Mean SBP was 104.1, SD 10.8 mmHg
- Mean DBP was 67.4, SD 7.9 mmHg
- Knowledge on sodium intake was at moderate level.
- Average urinary sodium was 1,685.3, SD 80.4 mg/d.
Results

![Graph showing changes in Knowledge and U. Sodium before and after a baseline. The graph indicates a significant decrease in U. Sodium and an increase in Knowledge after the baseline.]

- **Knowledge**: Decreased from baseline to before, then increased after.
- **U. Sodium**: Increased from baseline to before, then decreased after.
Recommendation

• Nurses and health team could apply the program to promote sodium intake reduction in nursing students and extend to other populations
Thank you for your attention