The Effects of an Oral Care Program on Oral Health of Institutionalized Elderly

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INTRODUCTION
Institutionalized elderly overlooked the oral care because of multiple chronic diseases and decline self-care skills, impact the oral health quality of life, oral health status and nutritional status, resulting in oral-related diseases. There are few oral care program interventions. The purpose of this study was to develop an oral care program and to examine the effects of this program among institutionalized elderly.

METHODS
Setting and sample
This was a quasi-experimental pre-and-post study design. Convenience eligible subjects were recruited and randomly assign into experimental or control group by flipping coins. Fifty-four convenience subjects were recruited from two northern long-term care facilities, randomly assigned to the experimental group (n = 24) and the control group (n = 30).

The inclusion criteria were 1) age 65 and older, 2) conscious clear and be able to understand the instauration, 3) be able to communicated with Taiwanese and Mandarin, 4) be able to walk without assistants, 5) is oral intake 6) agree to participate in this study.

Elderly who was diagnosis dementia and head-neck cancer were excluded.

Instrument
Demographic data
The medical record was reviewed for age, gender, race, and education.

General Health Status
General health status were assessed by Mini-Mental Status Examination (MMSE), number of disease, medical history, and the number of teeth and Activities of Daily Living (ADL).

General Oral Care
General oral care was assessed by the frequency of changing toothbrush, frequency of brush teeth, timing of brushing and tool for cleaning dentures.

Subjective Oral Health Status
Subjective oral health status was measured by Oral Health Impact Scale – 14 (OHIP-14), The 14 items divided into seven domains.

Objective Oral Health Status
Objective oral health status was measured by Oral Health Assessment Tool (OHAT).

Dental plaque
The dental plaque was assessed by dentist with dental disclosing solution.

Procedure
After informed consent from residents in long-term care facilities, research assistants used instruments to collect data pre and post the oral care program. The dental plaques were assessed by a dentist pre and post the oral care program. Residents in the experimental group were received 4 weeks oral care program and the control group received the usual care.

RESULTS

<table>
<thead>
<tr>
<th>Variables</th>
<th>Experimental group (n=30)</th>
<th>Control group (n=24)</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective Oral Health Status</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>OHIP-14 pre-test</td>
<td>20.93±6.05</td>
<td>19.21±6.41</td>
<td>-1.276</td>
</tr>
<tr>
<td>OHIP-14 post-test*</td>
<td>18.16</td>
<td>21.06</td>
<td>3.010</td>
</tr>
<tr>
<td>Objective Oral Health Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OHAT pre-test</td>
<td>4.43±1.41</td>
<td>3.54±1.10</td>
<td>-.783</td>
</tr>
<tr>
<td>OHAT post-test*</td>
<td>2.89</td>
<td>4.11</td>
<td>21.094**</td>
</tr>
<tr>
<td>Plaque Status</td>
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<td></td>
<td></td>
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<tr>
<td>pre-test</td>
<td>8.14±5.08</td>
<td>7.05±3.97</td>
<td>-.891</td>
</tr>
<tr>
<td>post-test*</td>
<td>6.19</td>
<td>8.02</td>
<td>4.438*</td>
</tr>
</tbody>
</table>

1. *: covariation with age and education
2. **: p < .05  ***: p < .001

DISCUSSION & CONCLUSION
In this study, analysis of covariance (ANCOVA) using adjusted OHIP-14 post-test means was performed to examine the dental intervention effects. The results failed to reach statistical significance. However, the adjusted OHIP-14 post-test mean of the experimental group was significantly reduced compared with that of the pre-test. This suggested that the participants receiving care through the oral-health care program showed improved oral health-related quality of life. Thus, the oral health care program intervention can gradually improve the oral health-related quality of life. The statistically insignificant results were possibly associated with limitations created by the small sample.

Our findings that oral care effectively reduced dental plaque were consistent with those of previous studies. Specifically, the experimental group exhibited significantly improved dental plaque following enrollment in the oral hygiene program.

Key words: Oral care, Elderly, Institutionalized
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