Empowering non-governmental organizations to improve the older adults’ oral health in Hong Kong with a sustainable model of community-based outreach

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Summary of the impact

• HKU Dentistry has been collaborating with several non-governmental organizations (NGO) in co-organizing community-based dental care since 2020.
• HKU Dentistry has developed a sustainable model with an NGO to promote oral health of the older adults.
• HKU Dentistry has been training dental professionals, dental students, and staff in NGO and elderly center to provide dental community service.
• HKU Dentistry has been monitoring the oral health of older adults.
Summary of the impact

• 800+ older adults received free dental care.

• The project offered oral health care plans for older adults.

• The project informed older adults of the available source and support of oral health care.

• The project raised dental awareness of the older adults.

• The project enhanced oral health knowledge of the older adults.
Underpinning Research

- 1.3M people in Hong Kong aged 65 or above
- More than 95% of the older adults are suffering from dental caries
- Almost 100% of the older adults have gum disease
- Dental care need is large and increasing for older adults

2021 population census
2011 Oral Health Survey
Underpinning Research

- Most non-institutionalized older adults are NOT covered by dental care subsidy
- Many of them are financially vulnerable
- They do not have enough dental knowledge
- They are unaware of their dental needs
- They have difficulty in choosing and accessing an appropriate dental care service

3. Oral Health Status of Older Adults in Hong Kong

The oral health of older adults in Hong Kong is far from satisfactory, with high prevalence in both caries and periodontal disease. According to the 2011 oral health survey [20], 48% of the non-institutionalized older adults (aged 65–74) had untreated dental caries, with 1.3 decayed teeth found per older adult. Almost 90% had bleeding gums and periodontal attachment loss of more than 4mm on at least half of their teeth. When
Underpinning Research

- Shortage of dentist in HK (2,786; 0.37/1000)
- Severe shortage of dentist in public healthcare sector
- Insufficient dental resources is a challenge to care for disadvantaged people
- Community-based outreach programmes is the most effective and cost-effective way to improve oral health
Knowledge to be Exchanged

1. Capacity in organizing community dental care
2. Knowledge on oral hygiene maintenance
3. Oral health awareness
4. Knowledge on dental disease prevention
5. Knowledge on oral health care schemes
Engagement Process

1. HKU Dentistry collaborates with NGOs to enhance their capacity in providing community dental care.

2. Train dental professionals and students to provide dental community service to the older adults.

3. Train oral health providers to give individualized dental consultation to the older adults.

4. Generate and distribute pamphlets on oral hygiene maintenance.
HKU Engagement

1. HKU Dentistry offers training and consultation to NGOs.

2. We trained dental students to disseminate dental knowledge to the community.

3. We disseminated pamphlets about correct oral hygiene practice to enhance dental knowledge of the elderly participants and their family.
HKU Engagement

4. We performed dental check-up for the elderly participants and gave individualized dental consultation to raise their awareness of their oral health status.

5. We gave personalized oral health instruction to the elderly participants to enhance their dental knowledge and self-care capabilities.

6. We provided preventive therapy to the caries-affected participants.
NGO Engagement

1. NGO partners coordinate with the elderly centers for outreach activities.

2. NGO partners give advice on the oral health care service and the available dental allowance in Hong Kong.

3. NGO partner (Hope Worldwide) provides follow up dental management for the older adults after oral examination in outreach in their affiliated charitable dental clinics.
**Impact Achieved**

**Establish a sustainable outreach model**

**Conventional community-based outreach**
- Dentists/NGOs
- Recruit older adults
- Oral examination
- Preventive care

**Sustainable community-based outreach**
- Train non-dentist personnel
- Dentists/NGOs/Elderly center staffs
- Recruit older adults
- Oral examination
- Preventive care
- Follow up in elderly centers
- Management in NGO clinic
- Introducing funding schemes
Impact Achieved

Provide accessible, affordable and available primary oral health care service

• HKU Dentistry empowers Hope Worldwide to organize oral health promotion events to older adults in daycare centers

• These events are accessible, affordable and available primary oral health care service for the older adults in the community

• Older adult participants received free dental check-up, preventive dental therapy, and oral health education
Impact Achieved

Provide training to care providers for dental community service

• Staff in NGOs
• Staff in elderly centers
• Dental professionals
• Dental students
Impact Achieved

Promote the oral health awareness

1. 97.92% of the elderly participants were satisfied with the event and the overall arrangement.

2. 98.18% of the elderly participants reflected increased oral health awareness.

3. 95.02% of the elderly participants reflected raised dental help knowledge.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total no</th>
<th>Overall Satisfaction</th>
<th>Raised oral health awareness</th>
<th>Increased oral health knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-2021</td>
<td>169</td>
<td>99.4%</td>
<td>97.61%</td>
<td>90.47%</td>
</tr>
<tr>
<td>2022-2023</td>
<td>284</td>
<td>99.3%</td>
<td>97.18%</td>
<td>95.07%</td>
</tr>
<tr>
<td>2023-2024</td>
<td>424</td>
<td>95.06%</td>
<td>99.76%</td>
<td>99.53%</td>
</tr>
<tr>
<td>2020-2024</td>
<td>877</td>
<td>97.92%</td>
<td>98.18%</td>
<td>95.02%</td>
</tr>
</tbody>
</table>
## Impact Achieved

### Enhance the dental self-care capacity

• Evaluation on oral health related behaviors of the elderly participants

<table>
<thead>
<tr>
<th>Oral health related behaviors of participants</th>
<th>2020-2021</th>
<th>2022-2023</th>
<th>2023-2024</th>
<th>2020-2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants(%) performing oral hygiene measures≥ 2 times/day</td>
<td>77.38 %</td>
<td>90.84%</td>
<td>84.62%</td>
<td>84.28%</td>
</tr>
<tr>
<td>Participants(%) using dental floss or interdental brush</td>
<td>27.38%</td>
<td>32.39%</td>
<td>58.56%</td>
<td>39.44%</td>
</tr>
<tr>
<td>Participants(%) visiting a dentist more than 3 years ago or never</td>
<td>33.33 %</td>
<td>42.96%</td>
<td>26.35%</td>
<td>34.21%</td>
</tr>
</tbody>
</table>
Impact Achieved

Monitor oral health status

- Evaluation on oral health status of the elderly participants

<table>
<thead>
<tr>
<th>Oral health status of participants</th>
<th>2020-2021</th>
<th>2022-2023</th>
<th>2023-2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean VPI</td>
<td>0.55</td>
<td>0.26</td>
<td>0.24</td>
</tr>
<tr>
<td>Mean DMFT</td>
<td>16.3</td>
<td>16.1</td>
<td>15.77</td>
</tr>
<tr>
<td>Mean no. of decay teeth</td>
<td>2.51</td>
<td>0.67</td>
<td>0.95</td>
</tr>
<tr>
<td>Mean no. of missing teeth</td>
<td>9.86</td>
<td>9.68</td>
<td>9.98</td>
</tr>
<tr>
<td>Mean no. of filling teeth</td>
<td>3.91</td>
<td>5.71</td>
<td>4.84</td>
</tr>
<tr>
<td>Mean no. of remaining sound teeth</td>
<td>22.13</td>
<td>15.93</td>
<td>16.03</td>
</tr>
</tbody>
</table>

Erosive tooth wear among non-institutionalised older adults in Hong Kong: a cross-sectional study

Darren Dhananthat Chaiwuaevenng, Duangporn Duangthip, Alice Kit-Ying Chan, Samantha Kan-Yan Li, Chun-Hung Chu and Otto Yiu Yu

Abstract

Background: Non-institutionalised older adults is the majority of older adults in Hong Kong. The study aimed to examine erosive tooth wear (ETW) and its association with dental conditions and oral hygiene habits among non-institutionalised older adults in Hong Kong.

Methods: This cross-sectional study recruited dentate adults aged 60 or above from nine elderly day care centres in the five main districts of Hong Kong. The study consists of a questionnaire survey and a clinical examination. A researcher used a questionnaire to collect the participants’ demographic information, oral hygiene habits such as toothbrushing habits and dental visit behaviour. A calibrated examiner performed an oral examination in the day care elderly centre to assess the ETW using basic erosive wear (BEWE) criteria. Oral hygiene was recorded using visible plaque index. Prosthetic status was recorded using the World Health Organization criteria. Logistic regression was used to examine the correlation between ETW and the dental conditions and oral hygiene habits.

Results: This study recruited 433 dentate adults and 333 adults were female (77%). Their age ranged from 60 to 99 years and their mean age was 74 years (SD = 7). They all had ETW (BEWE > 0). Over half of them (57%) had BEWE score of 3, indicating severe ETW. Analysis showed increasing age (OR = 1.031, p = 0.028) and older adults with untreated dental caries had higher odds (OR = 1.822, p = 0.002) of presenting severe ETW. No other associations were found between the ETW and the factors studied.
Impact Achieved

Promote disease prevention

• This project emphasises and reinforces the concept of oral disease prevention in the community
• This project allows the detection and treatment of the dental problems in an early stage for older adults
• This project helps relieve economic burden from untreated dental problems.
Summary of Impact Achieved

1. Establish a cost-effective and sustainable community-based outreach dental care model
2. Provide an accessible, affordable and available primary oral health care service to the older adults.
3. Train health providers to provide dental community service
4. Promote the oral health awareness of the community
5. Enhance the dental self-care capacity of the older adults
6. Monitor oral health status of the older adults
7. Strengthen the preventive dental care of the community