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Dental health survey and programmes for adults with learning disabilities attending rehabilitation centres in Hong Kong

Key Messages

1. The overall dental health of adults with learning disabilities in Hong Kong is poor. They have a greater number of decayed and missing teeth compared with the general population.
2. Adults with learning disabilities seldom visit dentists, due to a lack of knowledge of the importance of dental hygiene, fear, and the high treatment cost.
3. A dental health education programme can significantly improve the dental health of adults with learning disabilities.

Introduction

The importance of developing dental services for special needs groups in Hong Kong has been emphasised, yet few programmes have been established.[1] Studies in the UK indicate that adults with learning disabilities have poorer oral hygiene and an increased risk of periodontal disease, with more untreated carious and missing teeth.[2] Only a small percentage of adults with learning disabilities in Hong Kong regularly receive dental services such as restorations, extractions, and prophylaxis.

It is well documented that oral health education programmes can improve oral hygiene in people with learning disabilities.[3] The most effective programmes should include the control of dental caries and improvements in periodontal health carried out by dental personnel on a regular basis. In addition, daily oral habits should be reinforced and monitored by people close to those with learning disabilities.

This study represents the first step for improving the dental health of adults with learning disabilities in Hong Kong and forms a baseline measure to assess targeted intervention programmes. The study included: (1) an oral health survey to measure the oral health status, needs, and habits of adults with learning disabilities; (2) an evaluation of treatment for some adults with learning disabilities by a general dental practitioner; (3) a targeted dental health education (DHE) programme in a special centre; and (4) an estimation of the cost and manpower needed to provide DHE and primary care treatment for adults with learning disabilities in Hong Kong.

Methods

Between July 1996 and August 1998, 50 rehabilitation centres (sheltered workshops, day activity centres, and hostels) in Hong Kong were invited to participate and 22 agreed. This study is therefore an opportunistic survey of centres. In total, 772 adults with learning disabilities participated. The mean age of subjects was 30.1 (range, 15-56) years with equal numbers of males and females. The majority of participants (n=550, 71%) had moderate learning disabilities, while 103 (13%) had severe learning disabilities. All subjects who presented on the examination day and consented to the survey were examined.

The study consisted of three phases: survey, treatment, and follow-up. The first phase was a clinical oral health survey. A short questionnaire was administered to parents/carers of the learning-disabled participants to record home care and dental habits. The second phase took place at a dental practitioner's clinic where 138 subjects were offered dental care and oral hygiene instruction every 3 months for 2 years. The third phase examined changes in oral hygiene at the end of the 2-year intervention programme. The learning-disabled participants attended after work on a voluntary basis as a recreational activity.

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Table . Oral prophylaxis received on the first and sixth visits

Treatment	Visit 1, n=101 No. (%)	Visit 6, n=101 No. (%)
Brushing only	22 (21.8)	5 (5.0)
Polish only	30 (29.7)	7 (6.9)
Complete scale and polish	49 (48.5)	89 (88.1)

Results

Phase 1: oral health survey

The overall oral hygiene of the learning-disabled participants was poor and calculi (hard deposits of plaque) were found on the teeth in all subjects who needed scaling and prophylaxis. The prevalence of caries and calculi was similar to that of the general adult population in Hong Kong, but the learning-disabled participants had more untreated decay and missing teeth. There was a mean of 3.6 missing teeth and 2.3 decayed teeth per subject. The number of filled teeth was low, only 1.08 per person. The mean number of filled teeth for Hong Kong adults in 1991 (35-44 years old) was 3.2, but was only 0.86 for the same age-group in this study. Thirty-five (4.5%) participants never brushed their teeth and 184 (23.8%) subjects had never seen a dentist. The younger learning-disabled participants were more likely to have visited a dentist than the older subjects.

The capability of receiving dental treatment by the learning-disabled participants was assessed during the survey. The majority (89.7%) of the moderately disabled participants were classified as being able to receive routine treatment in a dental surgery. The potential ability to receive care decreased with the severity of the learning disability. This was reflected in the findings that the more severely learning-disabled subjects had a greater number of missing teeth and fewer filled teeth.

About one third (31.6%) of learning-disabled participants did not have regular dental check-ups because they did not know of such dental programmes. For those who had never seen a dentist, fear was the main deterrent; for those who had attended previously, cost was the main concern.

Phase 2: dental treatment

Scaling and prophylaxis

Nearly half (48.5%) of the 138 subjects were capable of receiving a complete scaling at the first visit, increasing to 88.1% on the sixth visit at 18 months (Table). The majority (55%) were able to receive routine treatment and complete scaling and polishing at the first visit.

Time needed for treatment

The mean (standard deviation [SD]) time taken for each scale and prophylaxis treatment decreased from 31.7 (4.5) minutes (n=138) at the first visit to 15.8 (3.2) minutes (n=101) at the sixth visit. After the fourth visit, no further reductions in treatment time were observed. The minimum time needed for treatment from the fourth to sixth visits was about 15 minutes. It did not include the time taken to reinforce the brushing technique.

Fillings and extractions

Only one third (32.5%) of teeth designated for extraction had been removed at the end of the treatment phase. Most parents/carers were apprehensive about pulling out teeth that were asymptomatic.

Phase 3: dental health education

The plaque removal and brushing techniques of the learning-disabled subjects who attended the DHE programme for five visits improved significantly. The most significant differences in oral hygiene were observed between the first and second visits. For example, the mean (SD) plaque score on the first visit was 1.98 (0.67) [n=38] and 1.57 (0.57) [n=38] at the second visit (P=0.001).

Cost and manpower

The treatment programmes' cost and manpower requirements were calculated. The cost of using dentists to carry out scaling and prophylactic measures during the treatment phase would be 3.4 times higher than using dental hygienists.

Discussion

This study was conducted in rehabilitation centres where the degree of learning disability ranged from mild to severe. There were 9446 learning-disabled people registered in rehabilitation centres in Hong Kong in 1998.[4]

Plaque plays a major role in the formation of caries (cavities), gingivitis (inflammation of the gums), and periodontal disease (soft tissue loss and pocket formation leading to bone loss, loose teeth, and tooth loss). Proper removal of plaque prevents the occurrence of these dental diseases. Surveys of learning-disabled people worldwide have found plaque control to be poor. This can be attributed, in part, to poor dexterity, poor knowledge of dental health, and a lack of professional care and advice.

The high number of decayed, untreated teeth, the low number of filled teeth, and the high number of extracted teeth suggest that dental visits by learning-disabled people are rare and teeth are left to decay until they need to be extracted due to pain and swelling. The more severe the learning disability, the greater the likelihood that tooth extraction is used as treatment. This is especially undesirable for learning-disabled people, as the provision of dentures for this group is difficult and many of them are unable to cope with wearing a denture.

Full-scale comprehensive dental care for learning-disabled people may not be likely in the near future.

However, the encouraging results of this study may stimulate the establishment of more comprehensive preventive programmes. If resources are limited, these programmes could be delegated to hygienists and centre staff, with support by government dentists.

As the recruitment of subjects was limited to rehabilitation centres in urban areas, the results of this study may not be generalisable to all adults with learning disabilities across Hong Kong. In addition, the attendance rate was very low, with only 15 (10.9%) subjects attending five treatment sessions. This further limits the applicability of the findings.

Conclusions

Oral hygiene is poor in learning-disabled people in Hong Kong. More decayed and missing teeth were found in learning-disabled people than in the general adult population; the prevalence of caries and the amount of calculus are nonetheless similar in both groups. Dental attendance for learning-disabled people is low. Reasons for low attendance are the perceived lack of problems with teeth, high cost, and fear. The majority of learning-disabled people can cope with routine dental treatment. Oral hygiene and the degree of cooperation improve with regular dental visits. Oral hygiene and tooth brushing technique improve with regular reinforcement from a formalised DHE programme. It is 3.4 times more expensive to employ dentists rather than hygienists to carry out scaling and prophylaxis for learning-disabled people in rehabilitation centres.

It is recommended that the government provides regular preventive and routine dental care for learning-disabled people in rehabilitation centres. Dental fees charged to learning-disabled adults by dental clinics affiliated with charity organisations should be lowered or subsidised. Regular DHE programmes should be established in rehabilitation centres on a 3 to 4 monthly basis until oral hygiene improves to acceptable standards, preferably during working hours to avoid irregular attendance. In-service training should be provided for centre carers/staff to learn to assist with oral health measures. So, too, should advice on oral health and services be provided for parents/carers of learning-disabled people.

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