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Dental practice during a world cruise: characterisation of oral health at sea

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Introduction

More than 100 million passengers, mostly from industrialised nations, have taken a cruise since 1980 on a growing fleet of cruise ships with ever increasing numbers of crew, the majority of whom come from developing nations.

Objectives

Little is known about oral health of these two distinctly different populations of passengers and crew of cruise ships at sea.

Material and Methods

In a retrospective, descriptive epidemiologic study design the routine documentation of all dental treatment provided during two months at sea in 2006 was analysed after the voyage. Subjects were n = 57 passengers (3.5 % of 1619) with a mean age of 71 (± 9.8) years and n = 56 crew (5.6 % of 999) with a mean age of 37 (± 12.0) years. Age, gender, nationality, number of natural teeth and implants were extracted. The prosthetic status was described by recording the number of teeth replaced by fixed prosthesis and number of teeth replaced by removable prosthesis. Oral health-related quality of life (OHRQoL) was measured using the 14-item Oral Health Impact Profile (OHIP-14) and characterised by the OHIP sum score.

Results

Women attended for treatment more often than men. Passengers had a mean number of 20 natural teeth plus substantial fixed and removable prosthodontics. Crew had a mean of 26 teeth. British crew and Australian passengers attended the dental service above average. Crew tended to have a higher average OHIP-14 sum score than passengers indicating an increased rate of perceived problems. Emergency patients from both crew and passengers have a higher sum score than patients attending for routine treatment.



Figure 1 Patients prosthetic status (%) and $\;$ Figure 2 Crew nationality (%) n= 999 mean number of teeth

	Emergency treatment				Routine treatment			
	Passenger		Crew		Passenger		Crew	
	n	mean (SD)	n	<i>mean</i> (SD)	n	mean (SD)	n	mean (SD)
Trauma	7	3.3 (4.3)	-		-		-	
Pericoronitis	-		1	5.0 (-)	-		-	
Pulpal disease	14	9.3 (10.2)	7	22.3 (4.8)	-		2	0.0
Periodontal disease	3	7.0 (6.2)	3	8.0 (5.3)	2	1.5 (0.7)	20	3.3 (6.2)
Caries	8	12.4 (12.7)	10	20.9 (19.5)	-		16	3.0 (5.9)
Defective restoration	25	4.6 (5.7)	5	3.4 (5.5)	1	0.0	4	3.0 (2.5)
Defective prosthesis	8	11.8 (14.7)	-		-		-	
Others	5	5.6 (0.9)	1	8.0 (-)	1	5.0 (-)	30	1.1 (1.5)
Mean		7.6 (9.1)		12.3 (11.1)		2.0 (1.9)		3.3 (5.9)

Table 1 Mean OHIP summary scores (x) by diagnosis and number of appointments (n)





Figure 3 Patients' age distribution (%) of crew and passengers

The vessel in Hong Kong

Conclusions

Differences seen between the two groups are not exclusively attributable to the age factor but represent differing backgrounds in home countries. Socioeconomic factors serve to explain the high standard of prosthetic care in passengers. Crew in general present with less sophisticated prosthetic devices. This is in line with their different socioeconomic status and origin from developing countries. The level of dental fees aboard in comparison to treatment costs in home countries may explain some of the differences in attendance. British officers would find subsidised crew treatment rates low in comparison to private rates at home. Filipino cabin stewards in turn would still receive basic treatment in their home country (extractions) substantially cheaper than on board. Passengers have enjoyed high standards of prosthetic care in the past and will expect a similarly high standard from ship based facilities. The ease of access to quality dental care may explain the relatively low level of perceived problems as characterised by oral health-related quality of life scores. The dental officer aboard has to be prepared to care for very varied diagnostic and treatment needs.

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