

Oral health in Lebanon: a pilot pathfinder survey

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صحة الفم في لبنان : استقصاء استكشافي
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خلاصة : أجري استقصاء استكشافي لصحة الفم بغية تحديد مستوى تسوس الأسنان وأمراض ما حول الأسنان في لبنان وتوفير بيانات أساسية يتبعها استقصاء وطني لصحة الفم . شملت الدراسة 320 طالباً منهم 158 في سن الثانية عشرة و162 في سن الخامسة عشرة . وكان متوسط عدد الأسنان النخرة والمفقودة والمحشوة الدائمة لدى هؤلاء 5,0 و7,7 على التوالي . وكان 92% من الذين بلغوا الثانية عشرة و96% من الذين بلغوا الخامسة عشرة يعانون من تسوس الأسنان . أما معدل انتشار أمراض ما حول الأسنان لدى الذين بلغوا الخامسة عشرة (94,5%) فكان من أعلى المعدلات في إقليم شرق المتوسط .

ABSTRACT A pilot pathfinder survey for oral health was conducted in order to identify the level of caries and periodontal diseases in Lebanon and to produce baseline data, to be followed by a national oral health survey. The study involved 320 students, of whom 158 were 12 years old and 162 were 15 years old. The decayed, missing and filled permanent teeth (DMFT) scores for 12 and 15-year-olds were 5.0 and 7.7, respectively. Ninety-two per cent (92%) of the children aged 12 years and 96% of the children aged 15 years were affected by dental caries. The prevalence of periodontal disease among 15-year-olds was shown to be one of the highest (94.5%) in the Eastern Mediterranean Region.

Santé bucco-dentaire au Liban: enquête exploratoire pilote

RESUME Une enquête exploratoire pilote sur la santé bucco-dentaire a été réalisée afin de déterminer l'importance des caries et des parodontopathies au Liban et d'obtenir des données de base, à suivre par une enquête nationale sur la santé bucco-dentaire. Cette étude portait sur 320 élèves dont 158 étaient âgés de 12 ans et 162 étaient âgés de 15 ans. Les résultats concernant le nombre de dents permanentes cariées, absentes ou obturées (DCAO) pour le groupe des 12 ans et celui des 15 ans étaient de 5,0 et 7,7 respectivement. Quatre-vingt-douze pour cent (92%) des enfants âgés de 12 ans et 96% des enfants âgés de 15 ans présentaient des caries dentaires. La prévalence des parodontopathies chez le groupe des 15 ans s'est avérée être l'une des plus élevées (94,5%) dans la Région de la Méditerranée orientale.

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Introduction

The most common oral health problems are caries and periodontal disease [1]. At present, data on the two common dental diseases in Lebanon are either scarce or nonexistent. This is due to the lack of reliable information, specifically epidemiological information. The purpose of this study, therefore, was to conduct a pathfinder survey for oral health to identify the level of caries and periodontal disease in Lebanon and supply baseline data, to be followed up by a national oral health survey. The pathfinder survey was conducted by a WHO consultant and nationals from the Lebanese University, supported by the WHO collaborative oral health programme in Lebanon.

Background

The trend of these two diseases in Lebanon is unpredictable as oral health human resources are available but the population is highly dependent on private or nongovernmental oral health personnel. According to the Lebanese Dental Association records, the total number of dentists in Lebanon is 2890. The dentist/population ratio is 1:1006 but this favourable ratio has not helped in providing suitable oral health care to the Lebanese, as shown by the high prevalence of caries and periodontal disease.

There are only five dentists (one full-time and four part-time) in the public sector in greater Beirut, providing curative care in the only public dental clinic the city. Curative care is mainly service-on-demand in nature and is largely concentrated on the extraction of teeth.

The maldistribution of dentists in Lebanon, which is biased towards urban areas,

preference for working in private clinics rather than the public health sector, provision of curative care which is ambulatory in nature, lack of preventive measures and the civil war have all contributed to the increase in the two common dental diseases.

Subjects and methods

The survey was carried out in Beirut (urban), Sidon (semi-urban), and Kafroun (rural). The sample was drawn randomly from schools. The total number of students was 320, of whom 158 were 12-year olds and 162 were 15-year olds.

To assess the prevalence of caries, a clinical examination was performed using the WHO criteria (1987) [2]. Upright chairs, mouth mirrors and explorers were used in daylight. Decayed (D), filled (F) and missing (M) teeth were diagnosed. The community periodontal index for treatment needs (CPITN) [3,4] was used to assess the prevalence of periodontal disease, using the specifically designed periodontal probe (WHO probe). Dental caries and periodontal disease observations were recorded on WHO forms (1986) and transferred to computer for data analysis.

Results

Approximately equal numbers of males and females at each age were examined.

Dental caries

The DMFT scores for 12 and 15-year olds were 5.0 and 7.6, respectively (Table 1 and Figure 1). Ninety-two per cent (92%) of the children aged 12 years and 94% of the children aged 15 years were affected by dental caries.

Table 1 Mean number of decayed, missing and filled teeth among students in Lebanon, 1993

Age (years)	No. of subjects	Total DMF		D		M		F	
		No. of teeth	Mean	No. of teeth	Mean	No. of teeth	Mean	No. of teeth	Mean
12	158	795	5.03	724	4.58	34	0.22	37	0.23
15	161	1231	7.65	1124	6.98	27	0.17	80	0.50

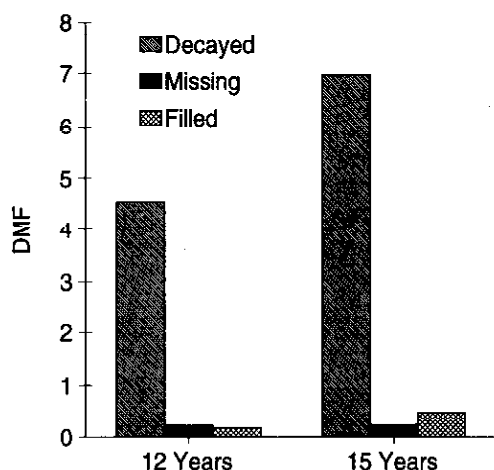


Figure 1 Dental caries among Lebanese children

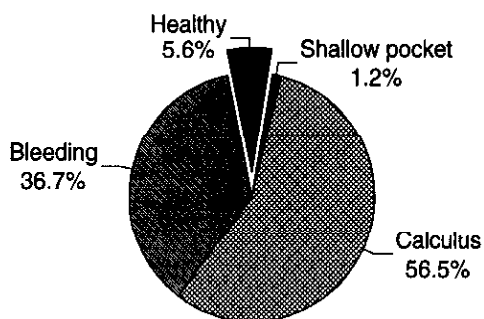


Figure 2 Periodontal disease among 15-year-old Lebanese children

Periodontal disease

Very few children (6%) aged 15 years scored 0 (healthy). The percentage of those who had gingival bleeding was 37% (Figure 2). Calculus was the most commonly recorded score for more than half of the children (57%). One per cent (1%) had shallow pockets. Deep pockets were not seen in this age group.

Discussion

The study included only two age groups (12 and 15-year olds). The 12-year-old cohort was chosen because it is the global monitoring age of caries and can be used for international comparisons and monitoring of disease trends. Data for the 15-year-old cohort can be compared with the data for 12-year olds to provide an estimate of the increase in prevalence and severity of caries. This is particularly useful in populations for which there are no, or very few, previous data, as is the case in Lebanon. Moreover, the two cohorts were selected to help develop a plan for school health services and baseline data for a national survey which should include more age groups.

The survey revealed that the DMFT index was high among 12 and 15-year olds in Lebanon and it increased with age (5.0 and 7.6, respectively). The percentage of caries-free children was very low, even among

12-year-old students (8%). The percentage was lower still among 15-year-old students (4%). The present survey data do not match (DMFT = 5.0) data obtained from the few previous studies which had evaluated the caries status for the same age group (DMFT = 11.8). The reason for this may be the use of criteria other than those of WHO, and possibly the presence of variations among examiners.

Of the 15-year old students, 94% had one form or another of periodontal disease. With respect to the categories of periodontal treatment needs (TN), almost all the children (94%) required oral hygiene improvement (TN1) and 58% required scaling (prophylaxis TN2). It was also evident from the findings of this survey that pathological shallow pocketing (1%) had already started to appear at the age of 15 years. This low percentage may not be considered an urgent problem but is certainly a significant one.

Comparison with other countries in the Eastern Mediterranean Region

During the 1970s most countries in the Eastern Mediterranean Region had DMFT below 3. The lowest DMFT recorded for 12-year olds (1.1) was in Sudan and Somalia (WHO, unpublished data, 1979). The highest DMFT recorded at that time (4.0) was in Iraq [5], Lebanon (3.6) and the Syrian Arab Republic (4.4) (WHO, unpublished data, 1974).

Over the years the situation changed. Sudan, which had low DMFT, suffered from an increase during the 1980s and early 1990s to a DMFT of 2.1 (WHO, unpublished data, 1990). In other countries, such as the Libyan Arab Jamahiriya and Soma-

lia, the DMFT remained almost the same with very slight increase. However, it increased in Jordan from 0.2 to 1.7 (WHO, unpublished data, 1984) and in Oman from 2.1 to 2.6 (WHO, unpublished data, 1979 and 1991, respectively). Iraq and the Syrian Arab Republic, with DMFT of more than 3 during the 1970s, showed slight improvement during the 1980s. As for Lebanon, the DMFT increased from 3.6 [7] to 5.0 (WHO, unpublished data, 1993). The lowest DMFT (0.4) in the Eastern Mediterranean Region so far recorded is in Djibouti (WHO, unpublished data, 1988).

The prevalence and severity of periodontal diseases vary considerably among countries. There are no reliable data from the 1970s, but investigations from the 1980s and 1990s show that at age 15, the situation is at its best in Somalia (1985) (WHO Data Bank). As for the rest of the countries, very few subjects had healthy gingiva and the most common score was for calculus. No data were available for Lebanon.

From the few studies carried out during the past 20 years in the Region on the prevalence of caries and periodontal diseases, it is evident that the oral health situation is fluctuating; this may be due to the lack of national oral health plans in the countries in the Region and, in some countries, to instability due to armed conflict.

Conclusions

- The pathfinder survey showed a high level of dental caries among 12 and 15-year-old children (DMFT = 5.0 and DMFT = 7.7, respectively).
- The prevalence of periodontal disease among 15-year-olds in Lebanon is one of the highest (94.5%) in the Eastern Mediterranean Region.

Because of the absence of a full picture of the oral health status and needs of the Lebanese population, and the high prevalence of dental caries and periodontal disease, it is considered necessary to organize a national survey for oral health.

Using the WHO methodology for national surveys [2], the following should be determined:

- the full nature of the two main oral diseases: dental caries and periodontal diseases;
- the extent to which existing oral health services are coping with current needs for care;
- the nature and extent of the required preventive, curative and restorative care;
- the resources needed for establishing, maintaining, expanding or reducing an oral health care programme, including an estimate of the number and type of personnel required.

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