

# PRELIMINARY STUDIES ON ORAL HEALTH CONDITIONS IN MALTA

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Read at the 1st International Symposium on Dental Hygiene Education held in Rome 3-5th May 1968.

Of late, two surveys have been carried out by the University Dental School to study the oral condition of the Maltese population. Camilleri and Cuschieri (1966) investigated 215 geriatric male patients in the 60-90 year old group; and Olivieri Munroe (1968) surveyed 1181 primary school children, 5-13 years old. Another pilot study is being done by Olivieri Munroe and Mangion on pre-school children, 2-6 years of age.

Camilleri compares his studies with those of Corridan's (1965) in his Cork (Ireland) survey and with those of Sheldon's (1948) in the Wolverhampton (England) one. The Maltese survey shows a healthier mouth picture of elderly institutionalised males at St. Vincent de Paul's Hospital. Adopting Sheldon's criterion of a minimum of six teeth with some masticatory function, Camilleri found 28.9% edentulous patients possessing adequate mastication against Corridan's 5.1% and Sheldon's 8.5%. The percentage of the Maltese edentulous was again remarkably lower, i.e. 46 against 70 (Cork) and 69 (Wolverhampton). Moreover, Camilleri found the state of the oral mucosa of these old inmates "generally good" with "no overt signs of nutritional deficiencies".

The survey by Olivieri Munroe (1968) on our primary school children revealed two opposing facets of the oral condition of the 5-13 age group. While the caries experience was encouragingly low the gin-

gival condition of these children was in a very unpromising state (Fig. 1).

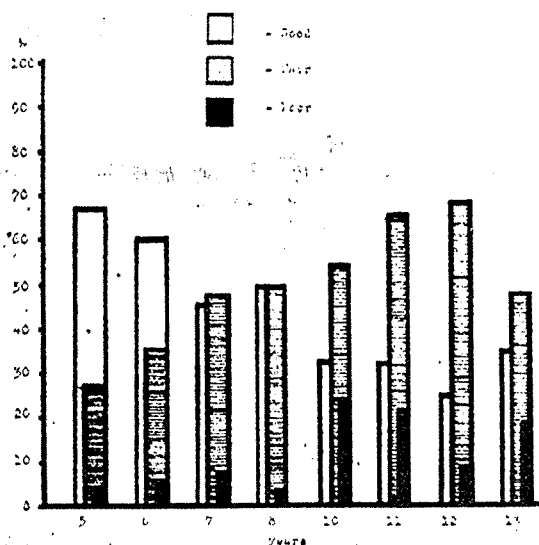


Fig. 1. Percentage of children with good, fair or poor gingivae.

At the age of 6, signs of gingivitis were present in 40%, which figure steadily rose to 76% in the 11 year old children. Olivieri Munroe assessed the gingival condition as good, fair and poor as outlined by Miller and Hobson (1961). Compared with the data of Massler, Cohen and Schour (1952) in the Philadelphia and Chicago surveys the oral condition of the Maltese school-children falls midway between the healthier picture of the Philadelphia children and that of Chicago children of a lower socio-economic level.

TABLE I

## A comparison of percentages of gingivitis in children.

Age	Massler, Cohen & Schour		Olivieri- Munroe
	Philadelphia	Chicago	Malta
6	35%	56%	40%
7	40	75	54
8	52	78	50
9	55	80	—
10	59	83	67
11	61	80	76
12	60	72	74
13	59	67	64

This state of affairs in Maltese children is mainly due to lack of dental health education. The standard of living is rising steadily in Malta and the oral condition is bound to improve but it will take long unless intensive dental health propaganda is started forthwith. It is only hoped that the introduction of refined and sophisticated foods will not affect the low rate of incidence of dental caries.

On the other hand Olivieri Munroe's data reveal a more encouraging picture from the aspect of the incidence of caries which tends to keep the lower figures at all age-groups.

TABLE II

## DFM rate in 12 year old children

Miller (1950)	5.0
Russell (1956)	4.96
Hargreaves (1964)	6.2
Olivieri Munroe (1964)	2.32

The decayed, missing or filled teeth rate at the age of ten is 1.54 which is definitely lower than the rate for the 6-10 year old Italian children surveyed by Schour and Massler in 1945. The DMF rate of 2.41 in these children was considered to be a very good picture of dental health; the deficient diet of the war period, was considered to have had a salutary effect on the incidence of caries (Knowles 1949, Toverud 1949).

TABLE III

## Mean number of DMF teeth per person

Age	Schour & Massler (1945) Italy	Olivieri-Munroe (1964) Malta
6	} (6 to 10 yrs.) 2.41	0.16
7		0.46
8		0.34
9		—
10		1.54
11		1.61
12		2.32
13		2.69

In the preliminary study being carried out by Olivieri Munroe and Mangion on pre-school children between the ages of 2-6 years, so far 80 children have been examined living in charitable institutions, mothered by greathearted nuns with very limited financial resources. The small figures in hand and the special character of the group do not justify us in drawing conclusions but the analysis of these data simply repeats the same pattern of oral health down to such tender age, i.e. caries resistant teeth with frequent signs of gingivitis although in the majority of cases this was limited to one or to a few teeth.

TABLE IV

## The df rate of both sexes and percentages of caries free children

Age	df Rate	Caries free children
2	0.12	94.1%
3	0.33	91.7%
4	1.0	61.1%
5	2.06	37.5%

These children start their dental life with a remarkably low caries rate. Dr. Arnell of Sweden has yesterday given us the figure of 12 decayed teeth per child of 3 years in Sweden. We found that Maltese children at that age have a df rate of 0.33 only. Davies and King (1961) record that two-year-old children of New Zealand, Great Britain and the United States are affected by dental caries in the region of 46, 33 and 23 per cent respectively while Maltese children of the same age possess a 94.1% caries free dentition. In a reverse manner gingival derangement and calculus formation start to show at a very young age.

**TABLE V**

Age	Boys	Girls
2	12.6	13.2
3	9.5	12.1
4	18.6	13.6
5	14.1	14.0
6	14.7	12.1

The P.M.A. (papillary, marginal, attached) index for 80 children examined.

A more correct assessment of the oral health of the Maltese population will be made when further surveys are carried out on a larger number of persons of a wider socio-economic status. The data of the extreme age-groups were obtained from inmates of charitable institutions, and they represent a section of the population of the lower income level. These investigations have so far confirmed a clinical impression that "our problem is more of a parodontal nature than one of tooth decay" (Mangion, 1959). Camilleri (1966) has shown that tooth mortality from periodontal disease in the patients of our dental department (St. Luke's Hospital) rose sharply after the age of 30 years; out of 500 consecutive extractions, periodontal disease was responsible for 3.1% of the cases under 30 years of age but in patients over 30 years the figure rose to 43.4%. Nevertheless, the oral condition of old age compares favourably with that described by other workers elsewhere.

The gingival assessment by Olivieri Munroe and Mangion in the younger age group was made according to the PMA index which is very sensitive; yet in parodontal diseases serious conditions have their beginning in trivial lesions, and the hope of success lies in early preventive treatment. At this point the question arises: "How early?"

I refer to yesterday's speakers' views. Our Finnish colleague suggests that oral hygiene education should be started when the child is 2 years old. Moreover, I was edified by Dr. Arnell's plan to have on the health panel of children's Welfare Service a dental surgeon who would introduce himself to the young child at the age of 1½ years and instil the principle of oral hygiene in the child's mother's mind. For

those countries that can afford the expense the motto should be: "It is never too early" for dental hygiene education.

**TABLE VI**

Age	Soft debris			Calculus
	Boys	Girls	Combined	Both sexes combined
2	5.4	5.2	5.0	0.0
3	2.0	2.4	2.3	0.4
4	4.4	4.0	4.2	0.6
5	5.3	3.9	4.5	1.4
6	3.8	3.5	3.6	0.9

Incidence of soft debris and calculus in pre-school children (oral hygiene index Green and Vermillion, 1960).

In the light of the above observations we feel confident that in our country the result of an organised oral health education campaign should be very rewarding. The awakening of public interest in dental hygiene is following the improvement in the standards of living and education. This is a slow process only available to the enlightened section of the population. We have to eradicate the popular belief that the function of dentistry is the relief of pain and sometimes the improvement of facial aesthetics.

The prevention of disease is the prerogative of the public health administration. It has been amply proved that dental disease has a deleterious effect on the general health and that it is an economic burden to the country. It is true to say that our public health administrators have concentrated on providing our patients with clinical treatment in government departments. It is hoped that they will also realize the importance of dental public health education and that the aim of modern dentistry is essentially prevention.

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