

华西协合大学医学院牙科毕业论文

A Study of the Distribution of Dental Caries
in the Mouth

◆ 岳松龄

作者简介

岳松龄（1920—2012），四川彭县人，龋病学专家，中国龋病学的奠基人，四川大学华西口腔医院教授。

岳松龄一生与华西坝结缘颇深，有八十二年是在华西坝度过的。其父岳清澄毕业于华西协合大学社会学系，并留校在图书馆工作。1930年，年仅10岁的岳松龄被父亲从彭县接到了成都，在父亲的抚养和支持下，他从弟维小学、高琦中学、华西协合高级中学，一直读到了华西协合大学牙学院。高中毕业的岳松龄，一开始并不想学医，而是想去报读工科。这是因为1939年6月11日，岳松龄参加华西协合高级中学举行的毕业文艺演出，演出开始不久日本飞机就来轰炸。敌机飞走后，岳松龄看见到处都是被日军炸毁的房屋、受伤的市民和被炸死的百姓，萌发了实业救国的想法。在父亲的劝说下，岳松龄最终接受了父亲的建议，进入了华西协合大学学习。最初两年，岳松龄对所学的课程没有兴趣。直到三年级，岳松龄的解剖学小考没有及格，他才醒悟过来，开始发奋学习。特别是当时病理学侯宝璋教授的为人和治学方法让岳松龄很敬佩，影响着他立志行医任教。1946年，岳松龄从华西协合大学牙科毕业，留校担任助教。通过对流行病学的调查，岳松龄认识到，龋病是口腔疾病中普遍存在并且危害人体健康的疾病。他毅然选择龋病作为自己的研究目标，并为之奋斗一生。在龋病普查的基础上，岳松龄开始通过动物实验来研究口腔龋病。在反复的实验对比中，他发表了“神经激惹对大白鼠龋病发生影响的初步探索”一文。

经过多年来对龋病的深入研究，岳松龄在龋病研究上成果颇

丰，创造了诸多的全国第一。他编写了国内第一部口腔龋病学术专著《龋病学》，培养出我国第一名龋病学硕士生和第一名龋病学博士生。在岳松龄的带领下，华西口腔龋病研究室的研究水平不断提高。2009年，《岳松龄现代龋病学》正式出版，全面、系统、深入地介绍了近年来国内外龋病学基础理论研究和临床技术的进展，重点对四川大学华西口腔医学院龋病研究室近三十余年的科研和临床成果，如龋病的病因、致病环境、发病机制、病理组织变化、治疗和预防等进行了论述。

A STUDY OF THE DISTRIBUTION OF DENTAL CARIES
IN THE MOUTH

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The incidence of caries among Chinese People has not been all over statistically reported. The purpose of this survey is to find the caries-distribution in the mouth of Chinese people. There are many patients who have never visited a dentist or a dental clinic until he has complained of severe tooth trouble. When they first visited the clinic, they were told to have lots of decayed teeth, some of them were hopeless. In this report we are going to describe the condition seen in adults only. But we must mention that this is only the result of the people examined in Chengtu.

Selection of Cases

In the Diagnosis Division of the Dental Clinic, W.C.U.U. the writer had chosen those cases with caries in their mouth but no teeth have been filled or extracted. Other restorations on or in the teeth were avoided. The decayed teeth and the degree of the lesion and their locations were recorded. The general health condition, the habit of sugar-taking, the oral hygiene and the social classes of the patients have all been registered. The age and sex of the patients have also been put into the record.

Methods of Examination

The total number of patients examined is 366. They are all adults, i.e., there is no deciduous teeth present in their mouths. The examination was done by means of mouth mirror and explorer. It is very unfortunate that we could not get so many x-ray films to examine their teeth roentgenographically. Pits and fissures were considered carious if the explorer was caught when examination was performed. The whole examination was done for half an year. All the patients examined and recorded were carious.

Analyses of the Data

1. Sex: It is stated(3,4,8,9,15,16) that the caries incidence among females is higher than males. In my statistic work, there are 189 males and 177 females. For the males there are about 664 carious teeth and for the females, 836. The average incidence or susceptibility for the males is 3.51 teeth per person and for the females, 4.72. It is very clear that from the data quoted the susceptibility of dental caries for females is higher than that for the males. Tables I and II will give the clear view of the condition.

2. Age: From ~~the~~ Tables I and II, we can see that the highest incidence of dental caries for the males is during the age of 26-30; i.e., totally 162 or 3.52 ^{teeth per person} averagely, were involved. It is also the highest number of cases seen during this stage of life(46 persons). The average susceptibility is near the highest data, 3.65. For the females, the total number of teeth involved at different ages is highest from 26 to 30 years of age too, and also true for the number of cases at these ages. The average susceptibility is highest at the same period of life too, that is 5.51 teeth per person. From Table III and IV we can see that the caries incidence becomes decreased after the age of 31 to 35 years for the males and 26 to 30 years for the females. For the females there is a second rise of the susceptibility at the age of 41 to 45 and reaches the highest point at the age of 46 to 50, ~~4.6~~ 4.6, but it is relatively lower than the first peak, 5.5. This is somewhat different from the statement of Sognnaes(9). He said that the caries appears in proportion with age.

3. Distribution(Tooth Susceptibility): The distribution of caries in the mouth was carefully examined and registered. The detailed description can be got from ~~the~~ Table V. Generally speaking, the incidence is higher in the lower teeth than in the upper ones. The highest incidence of occurrence of dental caries is the lower first molar(10.73-12.06%), next the upper first molar (6.60-7.26%). For the molars, totally, the incidence of caries is higher in

the lower teeth and for the anterior teeth and bicuspid, the incidence of caries of the upper ones is higher than that of the lowers. It is very interesting that there is no caries found in the central and lateral lower incisors ~~on~~ on the right side. These findings are comparatively similar to the description made by Kurt Thoma (15).

4. Surface Susceptibility: Furthermore, as to the surface analysis of the distribution of dental caries, we can get a clear view from the Tables VI ^{VI} and VII. In the Table VI, the proximal surfaces of the anterior teeth are most likely to be affected. For the molars, (Table VIII) the occlusal surface is very easy to be affected, nextly the buccal surface. Here we must mention that the pits marked the junction of mesial and distal developmental lobes are the most frequent location of occurrence of caries on the buccal surface of molars. Hewat (10) said that occlusal caries of the molars is the same as proximal.

5. Oral Hygiene: It is stated that the local oral hygiene is controversially in relation to the incidence of dental caries. But Hewat (10) said that the average caries index among fair and bad hygienic children is 26.9 and among the good ones is 24.7. As to my survey, I may say that this suggestion cannot be applied to the Chinese people. The bad hygienic cases have the highest caries incidence. This can be clearly seen from ~~the~~ Table IX. The reason why this makes the quite different conclusion may be due to the neglect of oral hygiene of the Chinese people.

6. General Health: The relation between the general health and the occurrence of dental caries can be understood from ~~the~~ Table X. We may briefly speak that caries most likely to occur among healthy people.

7. Sugar-Taking Habit: Another interesting fact is the relation between the habit of sugar-taking and the incidence of caries. There are 243 persons who are very fond of sugar-taking and only 89 cases not. This is the same as the result as most investigators (1,2,5,6,7,11) reported. The slogan mentioned by Sebelius that " Eat a protective diet to promote normal growth and develop-

ment; keep the sugars low to help control dental caries," may be accepted(11).

8.Social Class: The social class is of another interesting point of survey. More than 300 cases are beyond the middle class and only 51 are poors who are easily to be attacked by dental caries in my report(Table XII).

Summary

From the above description we may give the following summary:

1.There are 366 cases examined to find out the incidence of caries within their mouths. There are 189 males and 177 females. They are all adults.

2.The incidence of dental caries:

- a.Among females is higher than males,
- b.Increases with the increase of age but decreases until ~~the~~ certain ages,
- c.Occurs frequently at most on the molar teeth, esp. on the occlusal surfaces,
- d.Has no relation with local oral hygienic condition,
- e.Is higher among fairly and well-developed healthy patients,
- f.Occurs mostly in the mouths of persons who have "strong" sugar-taking habit,
- g.Occurs mostly among middle and rich classes.

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TABLE I INCIDENCE OF CARIES OF MALES

No. of Teeth Involved No. of Cases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total No. of Cases (B)	Total No. of Teeth Involved (A)	Individ. Susceptibility (Teeth/Person = A/B)
Age Cases (in Years)																			
11-15	2	1	4	4	1	1											10	34	3.4
16-20	3	12	6	9	3	1	1	2	1								38	134	3.53
21-25	7	8	6	6	5	1	2			1							37	135	3.65
26-30	4	10	6	4	9	5	2			1							46	162	3.52
31-35	7	3	3	3	2		1		3								22	78	3.54
36-40	4	4	1	3	2	2	1		1								18	65	3.50
41-45	3	2	3	1							1						10	31	3.1
46-50	2				1												3	7	2.3
51-55	1	1	1	1				1									5	18	3.6
56-60																			
Total No. of Cases	38	41	27	31	23	10	7	3	5	2	1	0	0	0	0	0	189		
Total No. of Teeth Involved	38	82	81	124	115	60	49	24	45	20	11	0	0	0	0	0	664		3.51 = Average

TABLE II INCIDENCE OF CARIES OF FEMALES

No. of Teeth Involved Each Case	Age Cases (in Years)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total No. of Teeth Involved (A)	Total No. of Cases (B)	Individual Susceptibility (Teeth/Person = A/B)	
	11-15	1	3	1	1						1							24	7	3.44	
	16-20		7	8	1	3	2	2	1	2					1			133	29	4.93	
	21-25	6	8	4	5	1	4	6	2	1	4	1						201	42	4.79	
	26-30	2	8	6	3	5	4	6	2	2	5	1			1			248	45	5.51	
	31-35	4	4	1	7	2		2	2	1	1		1				1	143	27	5.30	
	36-40	5	5		3	1												32	14	2.28	
	41-45	1	1			2			1									21	5	4.20	
	46-50	1	1	1	1									1				23	5	4.60	
	51-55				1													8	2	4.0	
	56-60																	3	1	3.0	
	Total No. of Cases	20	37	23	21	17	10	16	8	6	11	2	1	2	2	0	1		177		
	Total No. of Teeth Involved	20	74	69	84	85	60	112	64	54	110	22	12	26	28	0	16	836		4.72 =	

TABLE III / SUSCEPTIBILITY OF MALES

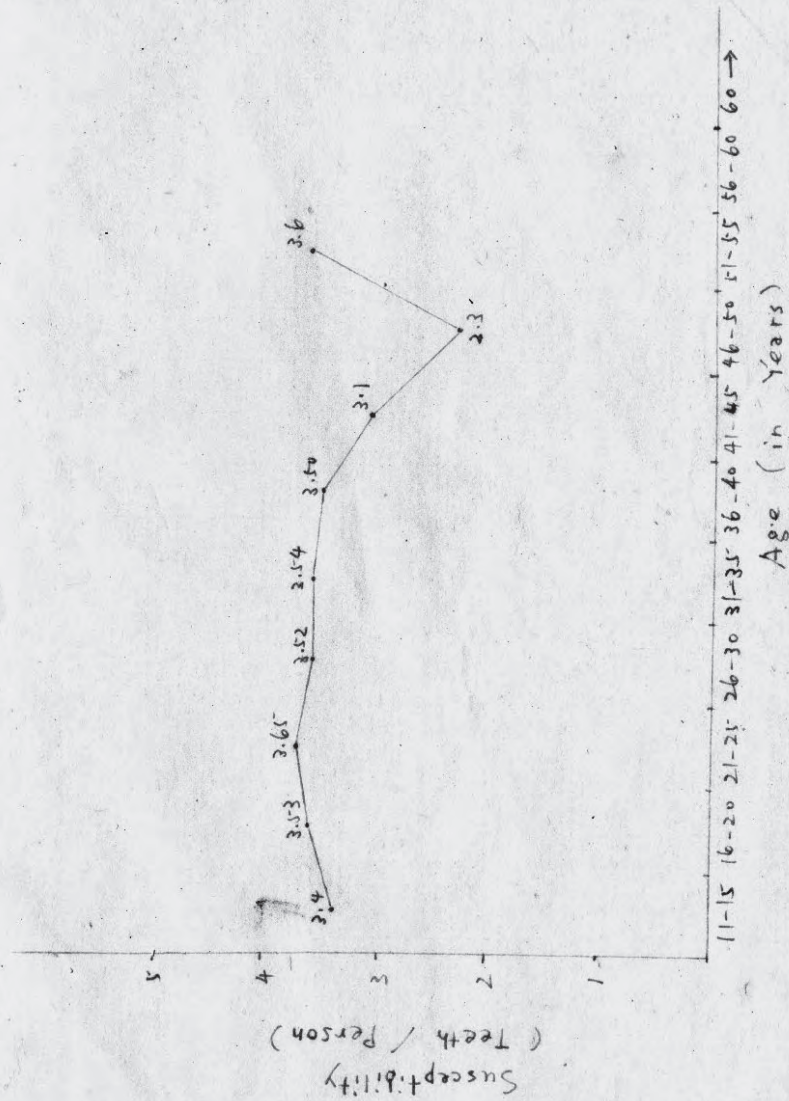


TABLE IV SUSCEPTIBILITY OF FEMALES

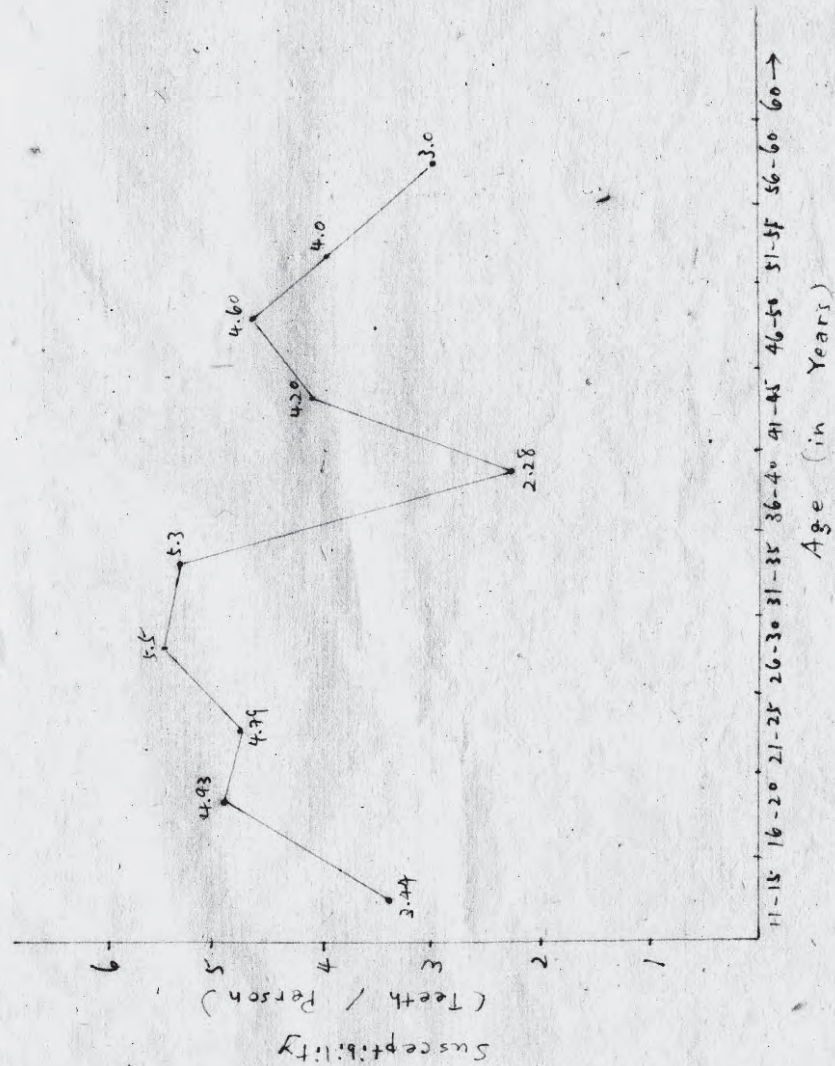


TABLE V DISTRIBUTION OF DENTAL CARIES IN THE MOUTH (TOOTH SUSCEPTIBILITY)

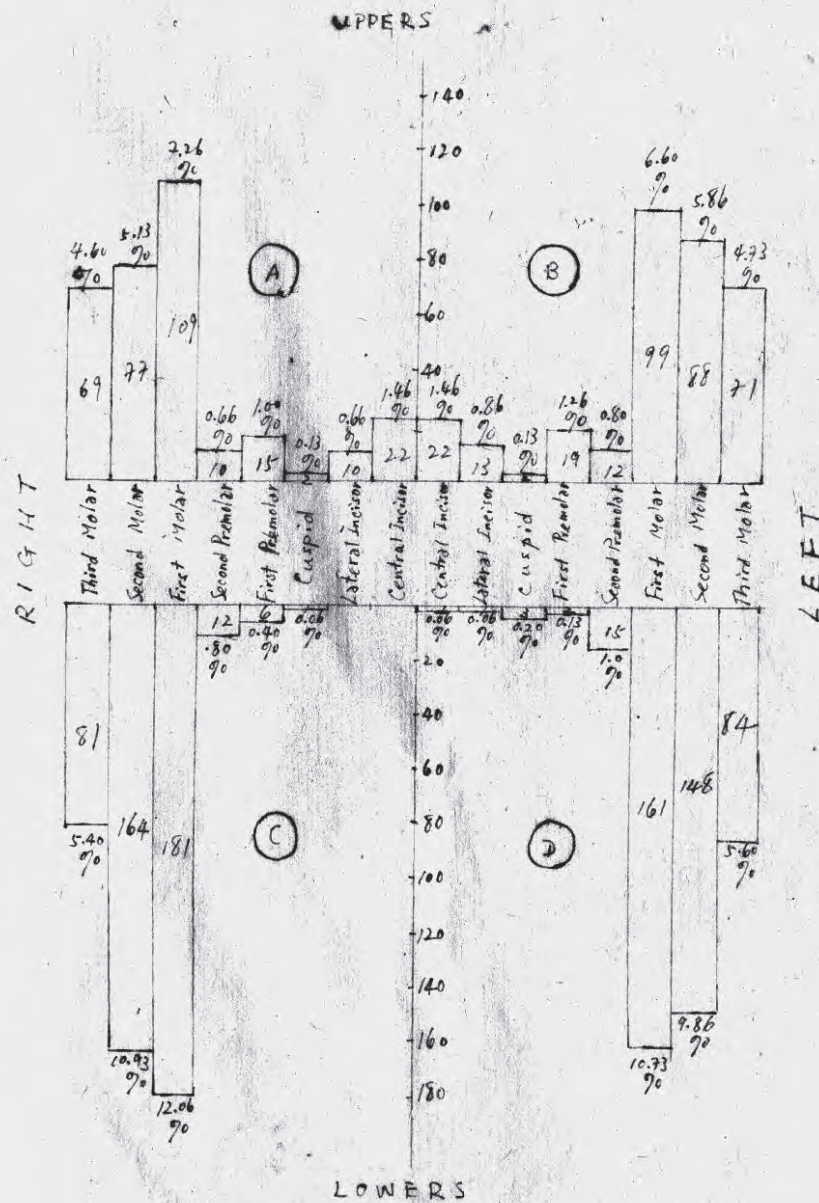


TABLE VI SURFACE SUSCEPTIBILITY OF ANTERIOR TEETH

	Incisal	Proximal	labial	Lingual or Palatal	Proximo- incisal	Proximo- lingual	Resid. Root	Total
1A		18	1	1		1	2	23
1B		18	2	1	2		1	24
1C								
1D		1						1
2A		7	1	2			1	11
2B		7	1	5			1	14
2C								
2D							1	1
3A		2						2
3B		2						2
3C			1					1
3D	1	1					1	3

TABLE VII SURFACE SUSCEPTIBILITY OF BICUSPIDS

	Occlusal	Proximal	M ₂ O	D-O	Buccal	Residual Root	Total
4A	8	2	1	1	1	2	15
4B	10	4	3	1		1	19
4C	2	2	1			1	6
4D	1	2					3
5A	3	4	3				10
5B	5	2	1	2		3	13
5C	8	2				3	13
5D	8	4	1	1		1	15

TABLE VIII SURFACE SUSCEPTIBILITY OF MOLAR TEETH

	Occlusal	Buccal	Lingual or Palatal	Mesial	Distal	B-O	L-O or P-O	M-O	D-O	MOD	BOD	DOL	Residual Root	Total
6A	77	1	4	3	3		1	9	2		1		13	113
6B	73	1	2	2	1		1	5	3			1	11	100
6C	123	19		4	3	5			5				26	185
6D	110	16		2	5	1		2	6	1			23	166
7A	71	2			1								3	77
7B	74		2	1	1	1		2			1		12	94
7C	130	5		1	3	2		1	5				17	164
7D	133				3			2	1				9	148
8A	53	4				2		1					9	65
8B	50	2		1		1		2	3				13	72
8C	62	2		1				3	2				12	82
8D	70	2		1				3	2				8	86

TABLE IX ORAL HYGIENE CONDITION

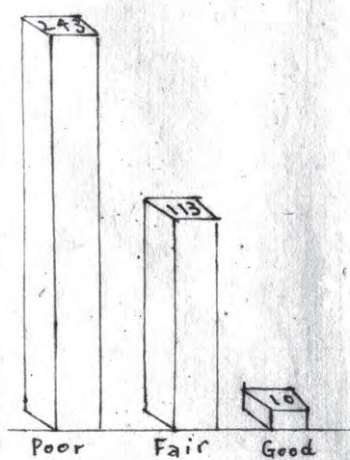


TABLE X GENERAL HEALTH

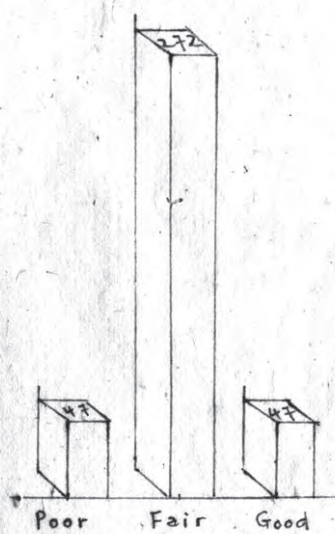


TABLE XI SUGAR-TAKING HABIT

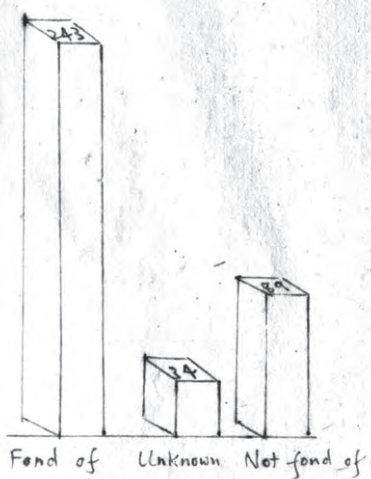


TABLE XII SOCIAL CLASS

