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1991

The Year Book of DENTISTRY®

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Journals Represented

Mosby-Year Book subscribes to and surveys nearly 850 U.S. and foreign medical and allied health journals. From these journals, the Editors select the articles to be abstracted. Journals represented in this YEAR BOOK are listed below.

Acta Odontologica Scandinavica
Advances in Dental Research
American Journal of Dentistry
American Journal of Medicine
American Journal of Orthodontics & Dentofacial Orthopedics
Anesthesia Progress
Annals of Neurology
Annals of Plastic Surgery
Athletic Training
Australian Dental Journal
British Dental Journal
British Journal of Orthodontics
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Caries Research
Community Dentistry and Oral Epidemiology
Compendium of Continuing Education in Dentistry
Endodontics and Dental Traumatology
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Health Marketing Quarterly
International Endodontic Journal
International Journal of Adult Orthodontic and Orthognathic Surgery
International Journal of Oral and Maxillofacial Implants
International Journal of Oral and Maxillofacial Surgery
International Journal of Periodontics and Restorative Dentistry
International Journal of Prosthodontics
Journal of Bone and Joint Surgery (American Volume)
Journal of Clinical Periodontology
Journal of Cranio-Maxillo-Facial Surgery
Journal of Craniomandibular Disorders
Journal of Dental Education
Journal of Dental Research
Journal of Dentistry
Journal of Dentistry for Children
Journal of Endodontics
Journal of Health and Social Behavior
Journal of Law and Ethics in Dentistry
Journal of Oral Pathology and Medicine
Journal of Oral Rehabilitation
Journal of Oral and Maxillofacial Surgery
Journal of Paediatric Dentistry
Journal of Periodontal Research
Journal of Periodontology
Journal of Prosthetic Dentistry
Journal of Public Health Dentistry
Journal of the Alabama Dental Association
Journal of the American College of Dentists
Journal of the American Dental Association

Journal of the American Medical Association
Journal of the Canadian Dental Association
Journal of the Indiana State Dental Association
Journal of the Michigan Dental Association
Journal of the New Jersey Dental Association
Laryngoscope
Oral Surgery, Oral Medicine, Oral Pathology
Paediatric Dentistry
Pediatric Dentistry
Plastic and Reconstructive Surgery
Postgraduate Medical Journal
Quintessence International Dental Digest
Scandinavian Journal of Dental Research
Scandinavian Journal of Rheumatology
Special Care in Dentistry
Swedish Dental Journal
Texas Dental Journal

STANDARD ABBREVIATIONS

The following terms are abbreviated in this edition: acquired immunodeficiency syndrome (AIDS), central nervous system (CNS), cerebrospinal fluid (CSF), computed tomography (CT), electrocardiography (ECG), human immunodeficiency virus (HIV), and temporomandibular joint (TMJ).

Introduction

The year 1990 provided the practitioner of dentistry with an amazing number of new challenges. The editorial staff of the 1991 YEAR BOOK OF DENTISTRY has specifically addressed these issues so that readers will be able to incorporate this information into their dental practices. Highlights of these issues include the potential toxicity of amalgam and HIV infection control and transmission, as well as other hazardous areas of dental practice. We have added new sections on pediatric dentistry and interceptive orthodontics, as well as a major section on trauma and reconstructive surgery. Included again, for the second year, is a chapter on practice management. With so many events taking place in the environment of dental practice it appeared appropriate to expand this section. Longtime readers will note that we have omitted the chapter entitled, "Preventive Dentistry." This subject has been incorporated into *all* of the editorial material that has been assembled in the 1991 YEAR BOOK OF DENTISTRY.

The editorial board welcomes Dr. Fräns Currier whose knowledge and expertise in pedodontics and orthodontics will allow the reader to receive the comments of an individual who has practical experience and credentials in both areas. We would also like to welcome Patrick Louis, M.D., D.D.S., who worked closely with Victor Matukas, D.D.S., M.D., Ph.D., selecting and commenting on literature pertaining to the following areas: Dentoalveolar Surgery, Orthognathic Surgery, Implantology, Temporomandibular Joint, Trauma and Reconstruction, and Surgical Oral Pathology. Dr. Louis is Assistant Professor of Oral and Maxillofacial Surgery at the University of Alabama, Birmingham.

Let me again invite you, as readers of the YEAR BOOK, to share comments regarding present and future subject material. The YEAR BOOK editorial staff is committed to bringing you relevant, practical material. Please assist us by sending your comments.

Lawrence H. Meskin, D.D.S., Ph.D.

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1 Pediatric Dentistry

Introduction

Change is not easy. Many times we take nearly the same information and look at it in such a new or different way that we gain new knowledge and therefore a greater understanding of the whole as well as the parts.

Placebo is a good example. It has an approximately 35% success rate because the patient wants to help us. We label it subjective, unknown, mental; we basically downgrade it. Actually, it's related more to our ignorance or lack of knowledge. We have much to learn. Let's continuously be the learner and the sharer of our strengths and weaknesses.

What works for one individual might not work for another. It could be a generation shift; it could be a current variation that is being taught at different schools. There are major cyclic phenomena that occur in dentistry. We have revisited so many: nitrous oxide and other drugs; child-parent-doctor roles; extraction vs. nonextraction; orthodontics vs. orthopedics; removable vs. fixed; prophylactic odontotomy vs. restoration.

G.F. Currier, D.D.S., M.S.D., M.Ed.

Children and the Future

A Generation of Dental Services for Children: Change and Similarity

Waldman HB

J Dent Child 57:24-30, 1990

1-1

In the late 1960s children made up more than one third of the United States population. Today, only a quarter of the population is younger than age 18 years, but the number of children is expected to rise during the 1990s (Table 1). In the last 20 years there have been many changes in pediatric dentistry, the most important being the reduction in caries made possible by the availability of systemic or topical fluorides. During the 1980s the average decayed and filled surface rate for primary teeth of

TABLE 1.—Population Younger Than Age 18 Years and Percent of Total Population:
Selected Years 1968-2000

	1968	1975	1980	1990*	2000*
Number (in millions)	70.8	66.3	63.9	64.0	65.7
Percent of population	35.4	31.3	28.2	25.6	24.5

*Projected.

(Courtesy of Waldman HB: *J Dent Child* 57:24-30, 1990.)

TABLE 2.—Prevalence of Caries in Primary Teeth by Age: 1979–1980 and 1986–1987

Age	Mean decayed filled surfaces	
	1979–80	1986–87
5	4.03	3.40
6	4.76	3.73
7	5.52	4.20
8	6.11	4.24
9	5.95	3.89
Total	5.31	3.91

Note: Change in reporting format prevented comparisons with earlier periods.
(Courtesy of Waldman HB: *J Dent Child* 57:24–30, 1990.)

children aged 5 to 9 years decreased from 5.31 to 3.91 (Table 2). Between 1971 and 1973 and 1986 and 1987, the average decayed, missing, and filled surface (DMFS) rate for permanent teeth in children aged 5 to 17 years decreased (Table 3), but the filled component increased (Tables 4 and 5). A 1986–1987 national dental study found that children who

TABLE 3.—Prevalence of Caries in Permanent Teeth by Age for Children: 1971–1973 and 1986–1987.)

Age	Mean decayed missing filled surfaces	
	1971–73	1986–87
5	0.15	0.07
6	0.41	0.13
7	0.69	0.41
8	1.86	0.71
9	3.59	1.14
10	4.14	1.69
11	4.58	2.33
12	6.36	2.66
13	8.67	3.76
14	9.60	4.68
15	11.67	5.71
16	15.12	6.68
17	16.90	8.04
All ages	7.06	3.07

(Courtesy of Waldman HB: *J Dent Child* 57:24–30, 1990.)

TABLE 4.—Percent of DMFS Caused by Decayed, Missing, and Filled Teeth: 1971–1974 and 1979–1980

Age	Decayed		Missing		Filled	
	'71-'74	'79-'80	'71-'74	'79-'80	'71-'74	'79-'80
7	80.0	41.9	0.0*	0.3	40.0*	57.8
9	42.8	25.3	9.5*	0.6	47.6	74.1
11	40.7	23.2	11.1	1.0	51.8	75.7
13	36.0	21.5	8.0	2.1	54.0	76.4
15	28.5	17.5	11.1	2.3	60.3	80.2
17	25.2	13.5	12.6	3.2	62.0	83.3

*Relative standard error was 25% or more.

(Courtesy of Waldman HB: *J Dent Child* 57:24–30, 1990.)

TABLE 5.—Percent of DMFS Caused by Decayed, Missing, and Filled Surfaces: 1979–1980 and 1986–1987

	1979–80	1986–87
Decayed	16.8	13.4
Missing	7.1	4.3
Filled	76.1	82.3

Note: Changes in reporting format prevented comparisons with earlier periods.

(Courtesy of Waldman HB: *J Dent Child* 57:24–30, 1990.)

TABLE 6.—Mean DMFS of Children With Permanent Teeth by Age and Water Fluoridation Exposure: 1986–1987

Age	Lifelong water fluoridation exposure	No water fluoridation exposure	Percent difference
5	0.03	0.10	70
6	0.14	0.14	0
7	0.36	0.53	32
8	0.64	0.79	19
9	1.05	1.33	21
10	1.64	1.85	11
11	2.12	2.63	19
12	2.46	2.97	17
13	3.43	4.41	22
14	4.05	5.18	22
15	5.53	6.03	8
16	6.02	7.41	19
17	7.01	8.59	18
All ages	2.79	3.39	18

(Courtesy of Waldman HB: *J Dent Child* 57:24–30, 1990.)

TABLE 7.—Percent of Children With Dental Visit Within Past Year:
Selected Years 1969–1986

<u>Age (In years)</u>	<u>1969</u>	<u>1978/79</u>	<u>1983</u>	<u>1986</u>
Under 5	11.0	14.3		
2–4			28.4	33.5
5–14	58.8	64.2		
5–17			67.0	71.5

(Courtesy of Waldman HB: *J Dent Child* 57:24–30, 1990.)

had always been exposed to community water fluoridation had DMFS scores about 18% lower than children who had not been exposed to fluoridation (Table 6).

Although dental caries has decreased, the use of dental services for children has increased in the last 20 years (Tables 7 and 8). Reported dental visits of children increased among girls, whites, and those of higher family income. A greater percentage of children than total percentage of the general population was covered by dental insurance (Table 9), and those who had insurance reported more dental visits during the previous year.

Increases in the number of pediatric dental students during the 1970s were followed by decreases during the 1980s. At present, there is a marked decrease in the number of senior dental students who plan to attend pediatric dental training programs. For those who do, available information suggests a favorable economic picture.

► It is important for the clinical scientist to examine the data in an article, not just the summary and conclusions. Tables or charts help in one's analysis. One makes one's own conclusions from the data.

TABLE 8.—Percent Distribution of Children By Time Since Last
Dental Appointment

Under 17 years			
Last visit	1969	1975	1981
Under 6 months	32.1	36.6	35.2
6–11 months	13.4	14.8	13.8
1 year	9.9	9.6	10.8
Subtotal	55.4	61.0	59.8
Never	35.5	30.0	30.4

(Courtesy of Waldman HB: *J Dent Child* 57:24–30, 1990.)

TABLE 9.—Number and Percent of Persons With Dental Insurance: 1968, 1980, 1986

Year	Total Number (in thousands)	Percent of total population	Percent of all children		
			Age		
			2-4 yrs	5-11 yrs	12-17 yrs
1968	5,867	2.9			
1980	79,433	34.9			
1986	94,976	39.3	40.2	42.8	43.1

(Courtesy of Waldman HB: *J Dent Child* 57:24-30, 1990.)

There are 3 basic types of studies: cross-sectional, longitudinal, and time-lag. Cross-sectionally designed studies observe different groups at one point in time. Longitudinal studies look at the same group at more than one point in time. Time-lag looks at characteristics associated with being a particular age at different times in history. See *Adolescent Development* (1). It is an excellent pathway to understanding.

To predict future dental services needed by children relative to age group, one only needs to review birth data per annum and consider child immigration and death rates. Classically, DMFS or DEFS rates have been used. That same type of comparison for children is needed in other important areas, e.g., periodontal indices such as plaque scores, bleeding indices, and pocket depths;

and malocclusion indices that presently are limited to teeth and the dentition. The areas of the face, soft tissues, and behavior have not, unfortunately, been included.—G.F. Currier, D.D.S., M.S.D., M.Ed.

Reference

1. Lerner RM, Spanier GB: *Adolescent Development: A Life-Span Perspective*. New York, McGraw-Hill, 1980.

Behavior and Pharmacology

Behavior Themes in Dentistry for Children: 1968–1990

Pinkham JR

J Dent Child 57:38–45, 1990

1–2

During the 1960s and 1970s the success of the dentistry for children movement was predicated on the ability of dentists to guide and manage the behavior of children through the dental appointment, and dentists developed a battery of techniques to help them interface with children. During that period parents seldom questioned the use of even authoritarian techniques, and there was little likelihood of litigation. Most parents expected that other adults, such as teachers, physicians, and dentists, would exert control over their children in appropriate circumstances.

Over time, parenting practices changed as society became more mobile. Parents were less likely to be influenced by practices of the past, and some began to question the right of other adults to attempt to control their children. In some cases dentists themselves were uneasy with the techniques taught during the 1960s and 1970s. In addition, society developed a whole host of new problems and life-styles that impacted on children as well as adults. Litigation became more common, and some dentists changed their methods in order to protect their practices.

Today there may be disparities between the personal philosophies of dentists and parents, and even among dentists themselves, as to how children should be guided through the dental appointment. This is not an issue of rightness or wrongness, and it should not be treated as such. It is a matter of personally held opinions and philosophies. However, when there is disagreement, there is a possibility for litigation. The dentist who treats children should recognize this fact and practice behavior management with caution, obtaining informed consent if appropriate.

It is inevitable that more changes will occur. It is incumbent upon journals dedicated to children's dentistry to address the issues and changes that are bound to arise in an evolving society.

► There are changes in behavioral themes that are having a profound effect on patient-doctor relationships. The 4 fundamental moral principles are autonomy, beneficence, nonmaleficence, and justice. They are not ranked in order.

The day of a regular, doctor-oriented treatment plan is dead. The patient is autonomous and should know and understand risks and benefits, in addition to understanding the options of treatment. With children, a major area of change