PREVALENCE OF DENTAL CARIES AND TREATMENT NEEDS AMONG HEMOPHILIC CHILDREN OF KOTA CITY, RAJASTHAN.

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ABSTRACT:

Background: *Hemophilic children must be thought of as special patients. Although there have been number of studies regarding with oral surgical, periodontal management of hemophilia there is paucity for the dental caries and its severity in hemophiliac children. The objective of this study is to assess prevalence of dental caries and treatment needs among hemophilic children attending Rajasthan hemophilia society, Kota City, Rajasthan. A descriptive cross-sectional study was conducted on a group of children suffering from haemophilia with age ranging from 0 to 15 years. Dentition Status and Treatment Needs Index (WHO 1997) was used to record dental caries. A total of 164 subjects of both the sexes were examined. Over all prevalence of dental caries was 87.19%. The present study showed dental caries prevalence and treatment needs was high among hemophilic patients indicating need for dental services at the earliest as a preventive measure for these patients.*

KEY WORDS: Inherited bleeding disorders, haemophilia, dental caries, treatment needs.

Introduction:

Inherited bleeding disorders account for approximately one in ten thousand live births. Among them most common is Hemophilia. Three chief forms of Hemophilia may be described; Hemophilia A, B, and C. The disease is hereditary, the defect being carried by the X chromosome. Hemophilia A (Classical hemophilia) is the most common of these and accounts for about 80% of bleeding disorders. A deficiency of coagulation factor VIII results in hemophilia A. Hemophilia B (Christmas disease) is clinically similar to haemophilia A but is caused by a deficiency of factor IX; it accounts for about 10% of inherited bleeding disorders. Hemophilia C is caused by a deficiency of Plasma thromboplastin antecedent (PTA).[1,2]

Hemophilic patients must be thought of as special patients. Patients with hemophilia generally do not receive optimal dental treatment despite greater knowledge of hemostasis and advances in the treatment of the bleeding disorders. Although significant progress in oral surgery treatment for hemophiliacs has been documented, the focus of these reports has been dental extractions rather than conservation of the dentition and promotion of oral health. The dental profession should be made aware of safe, general dental treatment for this special group of patients. Bleeding is uncommon with routine dental procedures, and current modes of hemophilic therapy enable the practitioner to treat bleeding crises successfully should they arise.[2]

Since, routine dental procedures however do not usually involve bleeding; there is no contraindication to general dental treatment for hemophiliacs. Preventive dentistry is vital to the younger hemophiliac; older hemophiliacs may require extensive treatment to restore mouths that have been neglected for years.[2,3,4]

Although there have been number of studies regarding with oral surgical, periodontal management of hemophilia, there is paucity for the dental caries and its severity in hemophiliac children.

Objective:

To assess prevalence of dental caries and treatment needs among hemophilic children attending Rajasthan hemophilia society, Kota City, Rajasthan.

Table 1: Distribution of study subjects according to age and gender

Age Groups (years)	Males	Females	Total
0-5	30	03	33
6-10	45	02	47
11-15	77	07	84
Total	152	12	164

Table 2: Distribution of study subjects according to type of hemophilia.

Age Groups (years)	Hemophilia A	Hemophilia B	Hemophilia C
0-5	29	4	0
6-10	39	7	1
11-15	76	7	1
Total	144	18	2

Table 3: Prevalence of dental caries among the study population

Age Groups (years)	Total			Males			Females		
	No.	With caries	Prevalence	No.	With caries	Prevalence	No.	With caries	Prevalence
0-5	33	28	84.85%	30	28	93.33%	03	00	-
6-10	47	41	87.23%	45	40	88.89%	02	01	50%
11-15	84	74	88.09%	77	72	93.51%	07	02	28.57%
Total	164	143	87.19%	152	140	92.10%	12	03	25%

Table 4: Intra analysis of mean dmft (primary teeth) and mean DMFT (permanent teeth)

Age Groups (years)	deft	d	e	f	DMFT	D	M	F
0-5	3.2	2.9	0.1	0.0	-	-	-	-
6-10	4.32	3.95	0.3	0.06	2.34	1.17	1.07	0.1
11-15	1.12	1.1	.02	0.0	5.67	4.42	1.22	0.3

Table 5: Treatment needs of study population.

	Age groups			Total
	0-5 years	6-10 years	11-15 years	
Children require treatment	30 (90.91%)	44 (93.62%)	80 (95.24%)	154 (93.90%)
Preventive care	16 (48.48%)	23 (48.94%)	69 (82.14%)	108 (65.85%)
Fissure sealant	14 (42.42%)	32 (68.08%)	58 (69.05%)	104 (63.41%)
One surface filling	10 (30.30%)	19 (40.42%)	74 (88.09%)	103 (62.80%)
Two or more surface filling	18 (54.54%)	23 (48.94%)	31 (36.90%)	71 (43.90%)
Crown	05 (15.15%)	09 (19.15%)	08 (9.52%)	22 (13.41%)
Pulp care	02 (6.06%)	17 (36.17%)	29 (34.52%)	48 (29.27%)
Extraction	07 (21.21%)	13 (27.66%)	42 (50%)	62 (37.80%)

Methodology:

A descriptive cross-sectional study was conducted on a group of children suffering from hemophilia attending and registered their names, residential addresses and other details in Rajasthan hemophilia society at Kota city for general treatment and follow up. The examinations were carried out in a room, patients being seated on an ordinary chair under natural illumination. All the examinations were carried out by a single qualified examiner. Dentition Status and Treatment Needs Index (WHO 1997)was used to record dental caries.

The study was approved by faculty of haemotology along with concerned medical center and informed consent was obtained from parents. Ethical clearance was obtained from ethical committee of the institution.

The data was complied and analyzed at People's College of Dental Sciences and Research Centre, Bhopal, M.P.

Results:

A total of 164 children were examined, out of which 152 were males and 12 were females. Maximum number of children belongs to 11-15 years age group (table 1). 87.80% of total participants were suffering from hemophilia A (table 2). Over all prevalence of dental caries was 87.19% (table 3). Highest mean DMFT 5.67 was recorded in 11-15 years age group (table 4).

Further it was observed that a total of 93.90% children required dental intervention. Out of which 65.85% require preventive care, 63.41% fissure sealant, 62.80% one surface filling, 43.90% two or more surface filling, 37.80% extraction, 29.27% pulp care, and 13.41% crown (table 5).

Discussion:

Results of present studies show that prevalence of dental caries and treatment needs is high among hemophilic children.

A review of the literature regarding the care of haemophilic patients showed the paucity of material on this important subject, and the lack of information on the dental health of this group of patients. Dental management of patients with haemophilia begins with prevention of dental disease and thus maintenance of a caries free dentition with good periodontal health.[5-7] As inherited bleeding disorders account for 1 in 10,000 live births and haemophilia represents the majority of such disorders, they are a priority group for dental care.[1]

In present study prevalence of dental caries was 87.19%. According to National Oral Health Survey caries prevalence in India was 51.9% (mean deft 2), 53.8% (mean DMFT 1.8) and 63.1% (mean DMFT 2.4) at ages 5, 12, and 15 years.[8] According to WHO mean DMFT at the age of 12 years should not be more than three.[9] These data indicates an alarming condition in our study group. In a study Boyd and Kinirons observed slightly higher prevalence of dental caries in primary dentition of hemophilic children compare to control.[1] Similarly in a study by Kabil et al DMFT and deft of hemophilic children were significantly higher than those of the non-hemophilic in Egypt.[10] Our results are in contrast with the study conducted by Sonbol et al, where significantly greater proportion of children with severe haemophilia were caries-free compared with the controls. Both the DMFS and DMFT were significantly greater in the controls compared with the haemophilia group.[11] This may be due to the fact that there patients received dental care as dental department was situated next to the out patient haematology consulting room and the dental aspect of the service was considered as an integral part of the haematology visit.

Conclusion and recommendations: The present study showed dental caries prevalence and treatment needs was high among hemophilic children. Good oral health is essential to improve individual overall health and well-being. These overview points towards developing immediate and effective oral health promotional and interventional strategies to combat the disease in this special group. Also, further studies are recommended to better understand oral health of hemophilic patients.

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