Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr ICV 2018= 82.06

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Original Research

Awareness of Dental Students about Ectodermal Dysplasia in Jamshedpur, India

Brijesh Kumar Singh[1], Abhishek Sarkar[2], Subhadeep Mukherjee[3], Saikat Deb[4], Sahana N Swamy (Deb)[5], Atreyee Mukherjee[6]

[1]Post graduate student, Department of orthodontics, Sardar Patel Post graduate Institute of Dental and Medical Sciences, Lucknow, U.P.;
[2]Post graduate student, Department of Prosthodontics, Awadh Dental College and Hospital, Jamshedpur, Jharkhand, Chaibasha, Kolhan University;
[3]Reader, Department of Oral and Maxillofacial Surgery, Awadh Dental College and Hospital, Jamshedpur, Jharkhand, Chaibasha, Kolhan University;
[4]Reader, Department of Prosthodontics crown bridge and Implantology, Awadh Dental College and Hospital, Jamshedpur, Jharkhand, Chaibasha , Kolhan University;
[5]GDMO Dental Surgeon, Chanchal Super Specialty Hospital, Govt of Health, Malda District, West Bengal;
[6] BDS, Consultant, Prefer Dental Clinic, Sammilani Park, Kolkata 700075

***ABSTRACT*:**
Introduction: Ectodermal dysplasias (EDs) are an inherited group of disorders that share in general developmental defects concerning minimum two of the major structures characteristically held to derive from embryonic ectoderm – hair, teeth, skin and sweat glands. **Aim and Objectives**: The rationale of this questionnaire study was to assess the knowledge and awareness of dental students regarding ectodermal dysplasia and the management of ectodermal dysplasia patients. **Materials and Methods**: A cross sectional study was conducted during the academic year in June 2018 among the undergraduate dental students of Awadh Dental College and Hospital, Jamshedpur, Jharkhand. 150 students were randomly enrolled in the study including third year, final year and intern students. All students in the study voluntarily completed a questionnaire consisting of 24 closed ended questions. **Results**: 67 % of the students had a basic knowledge of the etiology of the disease.82 % of the students were aware of the clinical manifestations of ectodermal dysplasia and 78% of the students respectively answered that they were not aware of precautions that are required to be taken. **Conclusions**: Most of the dental students had good knowledge about ectodermal dysplasia and dental management of patients with ectodermal dysplasia except for few aspects in treatment.
Key words: dental students, ectodermal dysplasia, hereditary disorder, developmental defects, Oral rehabilitation.

Received: 20 August, 2019 Revised: 28 September, 2019 Accepted: 29 September, 2019

Corresponding author: Dr. Saikat Deb, Reader, Department of Prosthodontics Crown Bridge and Implantology, Awadh Dental College and Hospital, Jamshedpur, Jharkhand, Chaibasha, Kolhan University

This article may be cited as: Singh BK, Sarkar A, Mukherjee S, Deb S, (Deb) Swamy SN, Mukherjee A. Awareness of Dental Students about Ectodermal Dysplasia in Jamshedpur, India. J Adv Med Dent Scie Res 2019;7(10): 65-67.

INTRODUCTION

Ectodermal dysplasias (EDs) are an inherited group of disorders that share in general developmental defects concerning minimum two of the major structures characteristically held to derive from embryonic ectoderm – hair, teeth, skin and sweat glands.[1] The characteristic clinical features include skin, tooth, and sweating abnormalities. In the newborns, the diagnosis in the first days of life is difficult as the characteristic abnormalities are not prominent. Skin desquamation during the neonatal period is seen in Up to 70% of boys with X-linked HED and female carriers. Alopecia is generally the first noticeable clinical feature. Children with hypohidrotic ED will have fine, scanty, light-coloured hair which thickens and darkens as patient grows up. The eyebrows and beard hair are also scant, but the hairs of eyelashes, armpit and pubic area might be normal. Hair from other body part is sparse or even absent.[2-4] Tooth abnormalities may become apparent during lactation as hypoplasia of the alveolar crests. Within the families, same family or between the sexes a great degree of variation can be seen regarding the

number of missing and malformed teeth. In comparison to the posterior teeth the anterior teeth will exhibit more morphologic discrepancies. Commonest example would be a tooth with cone or peg shaped crown. The ability to perspire is either decreased or absent which leads to hyperthermia in patients. Recurrent idiopathic fever spikes are seen in more than 90% of younger patients during the first year of life. 6% of the children affected with X-linked HED will exhibit Febrile seizures.[5,6] A detailed knowledge of the management of ectodermal dysplasia patients in the dental clinic or hospital, precautions to be taken and management of complications is necessary for all dental professionals. Hence the rationale of this questionnaire study was to assess the knowledge and awareness of dental students regarding ectodermal dysplasia and the management of ectodermal dysplasia patients.

MATERIALS AND METHODS

A cross sectional study was conducted during the academic year in June 2018 among the undergraduate dental students of Awadh Dental College and Hospital, Jamshedpur, Jharkhand. 150 students were randomly enrolled in the study including third year, final year and intern students. All students in the study voluntarily completed a questionnaire consisting of 24 closed ended questions. The questions in the questionnaire were designed to assess their knowledge, awareness and attitude regarding management of patients with ectodermal dysplasia. Data collected, Statistical analysis done and results obtained.

RESULTS

Out of the 150 students, 26% were third year students, 45% were final year students and 29% were interns. 67 % of the students had a basic knowledge of the etiology of the disease.82 % of the students were aware of the clinical manifestations of ectodermal dysplasia and 78% of the students respectively answered that they were not aware of precautions that are required to be taken. Only 6 % of students have treated patients with ectodermal dysplasiain the dental office. 97% of the students agreed that more emphasis should be given on the management of patients with ectodermal dysplasiain the dental curriculum. (Table 1)

Table 1: Awareness of dental students about ectodermal dysplasia

Questions	Yes	No
Do you know the etiology of ectodermal dysplasia?	67 %	33 %
Are you aware of the clinical manifestations of ectodermal dysplasia?	82 %	18 %
Are you aware of precautions that are required to be taken in ectodermal dysplasia?	22 %	78 %
Have you ever treated patients with ectodermal dysplasiain the dental office?	6 %	94 %
Do you agree that more emphasis should be given on the management of patients with ectodermal dysplasia in the dental curriculum?	97 %	3 %

DISCUSSION

Oral rehabilitation of the ectodermal dysplasia patient results in improvement in esthetics, speech, masticatory efficiency, and both sagittal and vertical skeletal relationship.[7] Therefore, it is important to diagnose the associated problems in dentoalveolar complex, so that an accurate treatment plan can be established to rehabilitate the patient at optimum level. Treatment should be administered by a multidisciplinary team involving pediatric dentist, orthodontist, oral and maxillofacial surgeon, and prosthodontist. Factors that govern the treatment plan are age of the patient, interarch spaces and relationships, number of teeth present and their position and shape, volume of alveolar bone, and mucosal attachment.[8-10] The most conventional and widely accepted dental treatment in cases of ED with complete or partial anodontia is removable dentures. Dental implants with fixed prosthesis are also being considered as an alternative treatment options in patients with completed jaw growth. However, the main difficulty with implant therapy is the presence of insufficient alveolar bone; implant placement may not be possible without bone grafting.[11] Furthermore, implantation and reconstruction surgery is subject to a greater risk of failure.[12,13]The other important drawback of implant is the cost factor which limits its affordability by the low socio-economic group. Although there is a controversy regarding definitive time to begin treatment, Till and Marques[14] recommend that an initial prosthesis could be delivered when the child starts school, so that the child could have a better appearance and have time to adapt to the prosthesis. Usually, by the time the child reaches school age, he or she is old enough to recognize the esthetic handicap and is willing to cooperate.

CONCLUSIONS

Most of the dental students had good knowledge about ectodermal dysplasia and dental management of patients with ectodermal dysplasiaexcept for few aspects in treatment. Overall, majority of the students showed positive attitudes towards learning about dental management of patients with ectodermal dysplasia. More emphasis should be made in the dental curriculum regarding the treatment protocol for the management of ectodermal dysplasiain the dental office.

REFERENCES

1. Klaus Wolff, Lowell A. Goldsmith, Stephan I. Katz, Barbara A. Gilchrest, Amy, S. Paller, David J. Leffell. Fitzpatrick"s Dermatology in General Medicine. Seventh edition United States: McGraw –Hill, 2008
2. Freire Maia N. 1971. Ectodermal dysplasias. Hum Hered 21:309–312. Freire Maia N. 1977. Ectodermal dysplasias revisited. Acta Genet Med Gemellol 26:121–131.
3. Visinoni AF, Lisboa-Costa T, Pagnan NAB, Chautard-Freire-Maia EA. 2009. Ectodermal dysplasias: Clinical and molecular review. Am J Med Genet Part A 149A:1980– 2002.
4. Lamartine J. Towards new classification of ectodermal dysplasia. ClinExpDermatolog. 2003;28:351.
5. Lu PD, Schaffer JV. Hypohidrotic ectodermal dysplasia.

Dermatol Online J. 2008;14:22.
6. Blüschke G, Nüsken KD, Schneider H. Prevalence and prevention of severe complications of hypohidrotic ectodermal dysplasia in infancy. Early Hum Dev. 2010;86:397-9.
7. García-Martín P, et al. Ectodermal Dysplasias: A Clinical and Molecular Review. ActasDermosifiliogr. 2013;104:451-70.
8. Ziada H, Holland T. Ectodermal dysplasia: A case report. J Irish Dent Assoc1997;43:127-8. Poyser NJ, Porter RW, Briggs PF, Chana HS, Kelleher MD. The Dahl Concept: Past, present and future. Br Dent J 2005;198:669-76.
9. Pigno MA, Blackman RB, Cronin RJ, Cavazos E. Prosthodontic management of ectodermal dysplasia: A review of the literature. J Prosthet Dent 1996;76:541-5.
10. Tarjan I, Gabris K, Rozsa N. Early prosthetic treatment of patients with ectodermal dysplasia: A clinical report. J Prosthet Dent 2005;93:419-24.
11. Imirzalioglu P, Uckan S, Haydar SG. Surgical and prosthodontic treatment alternatives for children and adolescents with ectodermal dysplasia: A clinical report. J Prosthet Dent 2002;88:569-72.
12. Lo Muzio L, Bucci P, Carile F, Riccitiello F, Scoi C, Coccia E, *et al*. Prosthetic rehabilitation of a child affected from anhydrotic ectodermal dysplasia: A case report. J Contemp Dent Pract2005;6:120-6.
13. Rad AS, Siadat H, Monzavi A, Mangoli AA. Full mouth rehabilitation of a hypohidrotic ectodermal dysplasia patient with dental implants: A clinical report. J Prosthodont2007;16:209-13.
14. Till MJ, Marques AP. Ectodermal dysplasia: Treatment considerations and case reports. Northwest Dent 1992;71:25-8.