Awareness & Knowledge of Maxillofacial Prosthodontics as a Dental Specialty amongst Medical Practitioners

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ABSTRACT

BACKGROUND
The primary goal of a medical team for managing patients suffering from tertiary disease (cancer) is to eliminate the disease or to remove the underlying pathology. Also, restoration along with rehabilitation of the defect to boost the confidence and self-esteem of the patients must be done. Rehabilitation usually is considered as a part of prosthodontics i.e., maxillofacial prosthodontics. But the scope of maxillofacial prosthodontics as a specialty does not find recognition amongst the multidisciplinary medical team in dealing with maxillofacial defects. The objective of the study was to evaluate the awareness and knowledge of the maxillofacial prosthodontics amongst medical practitioners in and around Wardha city.

METHODS
A descriptive, cross-sectional survey was conducted using a questionnaire. The validated questionnaire contained 14 questions, of which 13 were awareness based, and 1 was attitude based. It included relevant photographs. 219 medical practitioners working either in hospitals attached to educational institutes or private sector participated in the study.

RESULTS
The study reveals the percentage of medical practitioners who are aware about maxillofacial prosthodontics branch. Only 10.9% were aware about maxillofacial prosthodontics as a branch of dentistry which deals with the restoration of maxillofacial defects.

CONCLUSIONS
The survey points towards a need to conduct awareness activities to make the medical practitioners aware of this fact. This will hopefully increase the patient’s referral with such defects to a maxillofacial prosthodontist or can include a maxillofacial prosthodontist as a part of multidisciplinary team that could benefit the patient for complete rehabilitation.

KEY WORDS
Prosthesis, Trauma, Defects, Rehabilitation
Face has a unique role in social and emotional expression, communication and most importantly it is the reflection of oneself as expressed by St. Jerome’s statement “face is the mirror of mind.” Any defects of the face and associated structures therefore have important psychosocial implications on affected patients. Craniofacial / maxillofacial defects lead to severe depression that often require rehabilitation as “to appear human is fundamental right of every individual.” Patients who have been traumatised in an accident and / or have had surgical removal of diseased tissues requires restoration of the function and aesthetics. Restoration in these cases should ideally be carried out as soon as possible to minimise psychological trauma. Surgical reconstruction is considered to be the primary treatment of choice in such cases, although, not all the defects are treatable by surgical intervention. It depends on multiple factors like the size, location of the defect, the loss of vital anatomical structures and general debilitation of the patient. An available treatment option for such cases is the prosthetic rehabilitation of the defects.

Prostheses are an artificial replacement of part of the human anatomy restoring form, function and esthetic. Maxillofacial prosthodontics is concerned with the restoration and / or replacement of the stomatognathic and craniofacial structures with prostheses that may or may not be removed on a regular or elective basis. Maxillofacial prosthodontists are individuals who have the knowledge and skill set to provide the service of customising a prosthesis for maxillofacial defects. They should work as a part of multi-disciplinary team, generally associated with oral and maxillofacial surgeons, plastic surgeons, ear, nose and throat surgeons, ophthalmologists, general surgeons, general physicians, oncologists, orthopaedic surgeons, gynaecologists and paediatricians, speech therapists, occupational therapists, physiotherapists etc.

The primary goal of the medical team to manage patients suffering from tertiary disease is to eliminate the disease or to lead to restoration of the function and/or replacement of the stomatognathic and craniofacial structures etc. The purpose and nature of the study was explained to each participant fitting in the inclusion criteria and the willing participants were requested to complete a comprehensive closed ended, self-administered questionnaire. Of 300, 219 medical practitioners willingly participated in the study.

The questionnaire contained a total 14 questions. 13 questions were knowledge based, regarding awareness about maxillofacial prosthetics as a specialisation branch, various types of maxillofacial defects and materials needed for prosthetic fabrication etc. While the last one was attitude-based question. The questions were supported with relevant photographs so that a self-explanatory unique questionnaire is made. Sample size was taken based on the conveniences of the study. Professional details of the subjects such as area of specialisation and years of experience were also recorded in the study. Frequency analysis was done using Statistical Package for the Social Sciences (SPSS) software version 22.0.

This descriptive cross-sectional study was conducted amongst the institutional and private medical practitioners of Wardha city, Maharashtra after institutional ethical approval by Datta Meghe Institute of Medical Sciences (DMIMS). The study duration was from January 2019 to June 2019.

Inclusion Criteria
1. Medical practitioners associated with hospitals or practicing individually.
2. Post-graduate residents associated with medical hospital.

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**RESULTS**

| Percentage of medical practitioners who are aware | 6.8 | 11.4 | 52.1 | 29.7 |
|--------------------------------------------------|-----|------|------|------|
| Patients with congenital defects                  |     |      |      |      |
| Patients with acquired defects                    |     |      |      |      |
| Both                                             |     |      |      |      |
| Don’t know                                       |     |      |      |      |

**Graph 1. Percentage of Medical Practitioners Who Were Aware of Maxillofacial Defects and That They Can Be Restored with Prosthetic (Artificial Substitute) Rehabilitation**
If you have heard of it, where did you hear about it?

| Type of Prosthesis | No of Practitioners | Percentage |
|--------------------|---------------------|------------|
| Nasal & midfacial prosthesis | 60 | 31.05 |
| Cranial prosthesis | 4 | 1.83 |
| Prosthesis for maxilla & mandible | 93 | 42.47 |
| Finger | 8 | 3.65 |
| None | 65 | 29.7 |
| Newspaper | 0 | 0 |
| Books | 69 | 31.5 |
| Dentist | 65 | 29.7 |
| Friend | 85 | 38.0 |
| | | |
| Have you ever come across a patient with any of the above mentioned defect who has been rehabilitated with a prosthesis? | | |
| Yes | 58 | 26.4 |
| No | 161 | 73.5 |
| | | |
| Have you ever referred a patient with any of the above mentioned defects for rehabilitation? | | |
| Yes | 5 | 2.3 |
| No | 214 | 97.7 |
| | | |
| Which of the following prosthesis have you referred the patient for? | | |
| Ear | 1 | 0.5 |
| Eye | 2 | 0.9 |
| Nasal and midfacial prosthesis | 0 | 0 |
| Cranial prosthesis | 0 | 0 |
| Prosthesis for maxilla & mandible | 0 | 0 |
| Any other (Finger) | 2 | 0.9 |
| None | 214 | 97.7 |
| | | |
| Are you aware of the fact that such prosthesis can be better supported and retained with the help of implants? | | |
| Yes | 42 | 19.2 |
| No | 177 | 80.8 |
| | | |
| Are you aware of the average cost which the patient will have to bear for such kind of prosthesis? | | |
| Yes | 0 | 0 |
| No | 219 | 100.0 |
| | | |
| What material as per your knowledge is used for fabrication of such prosthesis? | | |
| Acrylic resin | 29 | 13.2 |
| Silicone | 56 | 25.6 |
| Both | 59 | 26.9 |
| I don’t know | 75 | 34.2 |
| Yes | 40 | 18.2 |
| | | |
| Do you know that a prosthodontist, a dental specialist, deals with maxillofacial prosthesis? | | |
| Yes | 179 | 81.7 |
| No | 0 | 0 |
| | | |
| Have you heard of the maxillofacial prosthodontics branch of dentistry which deals with the restoration of maxillofacial defects with an artificial substitute? | | |
| Yes | 24 | 10.9 |
| No | 195 | 89.1 |
| | | |
| If you have heard of it, where did you hear about it? | | |
| Friends | 0 | 0 |
| Newspaper | 0 | 0 |
| Books | 18 | 8.2 |
| Dentist | 6 | 2.7 |

Table 1. Doctor’s Awareness and Knowledge Regarding Maxillofacial Prosthodontics

Amongst the 71 % of practitioners who were aware of maxillofacial prosthesis, the commonest source of information was a dentist acquaintance (39.7 %) followed by friend (38.8 %) and books (31.5 %). 26.4 % of medical practitioners had seen a patient with such defects rehabilitated with a prosthesis whereas 73.5 % of practitioners had denied of the same. Only 2.3 % of participants had referred such cases with maxillofacial defects for rehabilitation and had referred them to plastic surgeons with no follow up. 0.9 % referred it for ear and ear prosthesis each and 0.5 % for ear prosthesis, most of the participants referred the patients to plastic surgeons.

19.2 % of practitioners had knowledge about implant being used as retentive aid for maxillofacial prosthesis. Whereas 80.8 % were not aware about it, and none of the practitioners knew about the average cost of a maxillofacial prosthesis. None of the practitioners were found of any idea about the cost of a maxillofacial prosthesis.

Most of the 18.2 % were ophthalmologists having idea only about eye prosthesis. Out of 10.9 %, 8.2 % had read it in medical books sometime and only 2.7 % had known it through dentist acquaintance. Positive response was obtained from about 40 % of participants who wrote that this survey questionnaire itself brought new knowledge and they are keen onto seeking more.
Maxillofacial prosthodontics seeks to restore form and function of patients with head and neck defects, also extended appliances like finger prosthesis, vaginal stents and much more using removable prosthesis. Maxillofacial prosthodontists work as part of a multi-disciplinary team. They work closely with oral and maxillofacial surgeons, plastic surgeons, ear, nose and throat surgeons, ophthalmologists, general surgeons, general physicians, oncologists, orthopaedic surgeons, gynaecologists and paediatricians, speech therapists, occupational therapists and physiotherapists.

Ability and the scope of a Maxillofacial prosthetist amongst the general public and the medical practitioners is scarcely understood. The practitioners are minimally aware of such a treatment modality and that it comes under the curriculum of a prosthodontist. On account of the lack of awareness, the patients with maxillofacial defects are not adequately guided and referred to a maxillofacial prosthetist for rehabilitation.

Therefore, the present study was conducted as an attempt to collect the data regarding awareness and knowledge of the medical practitioners towards the maxillofacial branch of dentistry as a specialty to restore maxillofacial defects.

The observations of this study were as follows -

Nearly 52.1 % of medical practitioners amongst 219 who were surveyed reported that they were aware of both congenital as well as acquired defects whereas, 29.7 % informed that they did not have any knowledge of defects.

Further questions addressed the awareness regarding types of prosthesis and their source of information. Various types of prosthesis like ear, eye, nasal & mid-facial prosthesis, cranial prosthesis, prosthesis for maxilla & mandible or any other prosthesis like finger were known to the surveyed practitioners. When questioned about this, only 19.2 % of the practitioners were aware that the implants could be used to improve the prognosis of the prosthesis. Surprisingly, none of the practitioners had any idea regarding the average cost of maxillofacial prosthesis.

As far as the materials used for the fabrication of such prosthesis are concerned, 13.2 % practitioners showed their knowledge regarding acrylic resin material, 25.6 % people knew that it could be fabricated in silicone and 26.9 % had idea of both.

18.2 % of the practitioners recognised prosthodontists to be a dental specialist who deals with maxillofacial prosthesis (Graph 1). These practitioners were the ones attached with the educational institutions associated with dental set-up from Departments of Ophthalmology and ENT. Private practitioners were not much aware. While, only 10.9 % (Graph 5) of them knew that maxillofacial prosthodontics is the specialty dealing with rehabilitation of maxillofacial defects, their source of information being textbooks and dentists 8.2 % and 2.7 % respectively.

The survey reveals the percentage of awareness amongst the medical practitioners regarding various maxillofacial defects but at the same time it recognises the lack of awareness amongst them regarding a person who could be their colleague and be a part of multidisciplinary team which is responsible for addressing the need of patients’ suffering with various kinds of maxillofacial defects.

Similar problem was documented by oral surgeons who are qualified in treating pathologies of craniofacial region have much less recognition amongst other medical colleagues. Navin et al. conducted a survey to assess the knowledge, attitude and awareness of the subject of oral and maxillofacial surgery amongst the consultants and practitioners of medicine in district of Vadodara and observed that few cases like
surgical removal of third molar, oral submucous fibrosis and implants] were the only problems where oral surgeons were preferred. For maxillofacial trauma and pathology, plastic surgeons; orthopaedic and ENT surgeons were preferred. In developed countries, the concept of a maxillofacial centre being an integral part of hospitals is a common finding. But this kind of approach towards rehabilitation of maxillofacial defects is very scarcely seen in India. Only in a few metropolitan cities a few health care centres have a maxillofacial unit wherein, a multidisciplinary team of medical and dental practitioners collaborate to deal with the maxillofacial cases.

**CONCLUSIONS**

Knowledge and awareness about maxillofacial prosthetics as a speciality is poor. This probably is the reason why a patient in need of maxillofacial prosthesis could not find the correct doctor to treat his / her condition and remains without complete rehabilitation. The survey indicates a need to conduct awareness activities amongst the medical practitioners. An initiative to join hands to form a multidisciplinary team is required to improve the health-related quality of life of individuals with maxillofacial defects.

**Limitations**

The study is restricted to a small population, which restricted the information obtained about the awareness and knowledge of the maxillofacial branch of prosthetics among the medical practitioners of Wardha city. The study was designed in a questionnaire format which is an indirect form of collecting information, other effective methods such as personal interactions and / or interviews could be undertaken.

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