ABSTRACT
Dry socket lesion is a post-extraction socket exhibiting exposed bone which is not covered by a blood clot or healing epithelium. This is one of the most common post extraction complication encountered in routine dental practise. This survey was done to check the knowledge and practise in management of dry sockets among undergraduate dental students. An online questionnaire was shared among 95 participants consisting of final year dental students and dental interns. There were 10 sets of close ended questions shared on survey planet. Based on the answers from the survey, the data was compiled and analyzed. Chi square test of statistical analysis was used with the aid of SPSS software version 20.0. The survey was taken up by 31.58% (n = 30) fourth year students and 68.42% (n = 65) intern students. More than 60% students gave correct responses to questions related to etiology, clinical presentation and management of dry socket. There were a smaller number of students who gave correct answers to the pathogenesis of the condition (51%). Both final year and intern students displayed an overall good knowledge about dry socket and its management. However, intern students showed better understanding than fourth year students which was statistically significant with p < 0.05 to three out of ten questions. It can be concluded that dental students eventually gain better insight in the subject with increasing clinical years.

KEY WORDS: ALVEOLAR OSTEITIS, BACTERIA, EXTRACTION, IRRIGATION, MEDICAMENT, PLASMIN.
and personal factors like poor oral hygiene, smoking, oral contraceptive use, traumatic extractions with heavy luxation of tooth can correlate with an increased incidence of dry sockets (Catellani et al., 1980). The socket can be completely exposed to the level of the bone or can be lined by infectious food debris or weakly clumped bacterial material.

There can be some amount of healing that is exhibited on the occlusal layers of the socket (Abhinav et al., 2019; Freudenthal et al., 2015; Mamoun, 2018). The basic treatment of dry sockets involves the irrigation of the infected socket using saline or chlorhexidine gluconate, povidine iodine (Freudenthal et al., 2015) This irrigated socket is filled with a medicaments like zinc oxide eugenol pack (Birn, 1973; Kumar et al., 2015). Measures are taken for optimal visualisation to reduce the contact of irrigation needles with the bone and proper removal of the debris in all aspects of the socket (Nusair and Abu Younis, 2007). Forceful curettage is contradicted in the case of dry sockets as it can spread the infection. Dry sockets can also be anaesthetised and curetted to induce fresh bleeding to facilitate the healing of the socket (H, 2011). With a rich case bank established over 3 decades we have been able to publish extensively in our domain.

(MATERIAL AND METHODS

An online questionnaire was shared among 95 participants consisting of final year dental students and dental interns. There were 10 sets of close ended questions shared on survey planet. The study was conducted in December 2019. Inclusion criteria were that the participants had to be in their final year or internship year. Prefinal year and specialists were excluded from the study. Participants only willing to answer all the survey questions were included after taking their informed consent. The questionnaire was prepared in a such a way to incorporate all clinical aspects of dry socket. Questions regarding etiology, pathogenesis, clinical features and management of dry socket were precisely framed. The responses of the survey were tabulated with the use of excel sheets. The analysis of the responses was done with the help of a statistical software SPSS version 20.0. Chi square tests were used to check for statistical significance.

RESULTS AND DISCUSSION

The study showed that out of the 95 participants who took part in the survey, 31.58% of them were fourth year students and 68.42% of them were intern students (figure 1). 17.89% fourth year and 46.32% intern students answered correctly for the question on the most common site of incidence for alveolar osteitis as mandibular posterior region. This response did not have any statistically significant difference among the students in different years of study (p = 0.097 > 0.05 (figure 2). 12.63% fourth year and 41.05% interns answered correctly to the question, what is the pathogenesis for dry sockets as plasminogen pathway. The response has a statistical significance and the interns were better aware of the pathogenesis of dry sockets when compared to final years with p = 0.036 < 0.05 (figure 3).

Figure 1- represented the frequency of fourth year students and interns who took part in the survey. X axis represents the year of study of the participants and Y axis represents the number of fourth year and intern students who participated in the survey.

16.84% fourth year and 46.32% interns answered correctly to the question, dry sockets occurrence is seen after how many days of tooth extraction as 2-5 days. The responses did not have any statistical significant
differences among the students in different years of study ($p=0.14 > 0.05$) (figure 4). 21.05% fourth year and 65.26% interns answered correctly to the question, is smoking a etiological cause for the incidence of dry socket as yes. The responses were statistically significant as the most interns responded correctly when compared to final year students ($p=0.00 < 0.05$), (figure 5) 11.58% fourth year and 44.21% answered correctly to the question, what is the most widely used medicament for dry sockets as alvogyl. There was a statistical significance and more interns answered correctly when compared to final year students ($p=0.016 < 0.05$), (figure 6).

Dry sockets or fibrinolytic alveolitis or alveolitis sicca dolorosa is one of the most common complaints following extraction of teeth. (Alexander, 2000) There is a variation in the existence of dry sockets where the most common existence being in the mandibular third molar region following the extraction of the tooth. (Lilly et al., 1974) The study by Mohammed B Younis et al. showed that there was an overall incidence of dry sockets in patients with an incidence of 3.2%, approximately 1% to 5% of all extractions and in up to 38% of mandibular third molar extractions. (H, 2011). Our survey showed that most students were aware of the common site of incidence of dry socket.

Dry socket is caused mainly due to the disintegration of the blood clot by fibrinolysis. (Krekmanov, 1981)
Plasminogen, the precursor of plasmin, circulates in the blood and binds to clots at wound sites. It is an important molecule that aids in the formation of blood clot, helping to induce fibrinolysis in the wound site. In cases of dry sockets there is lack of blood flow at the site because of bacterial and food debris present over the site of the wound, thereby delaying the healing of the extraction site and causing ischemia (Syrovets et al., 2012). This ischemia prevents initial blood clot to reform through additional bleeding and may prevent the immune system to act the site through local capillaries to initiate an inflammatory response to resorb the necrotic bone cells. (Chapin and Hajjar, 2015) 53.58% students were able to answer this correctly among which 41.05% were intern students.

The incidence of dry sockets was mainly observed after 2-5 days following post extraction. The food particles and bacteria present inside the extraction socket hinder the healing of the wound and lead to the formation of toxins, causing irritation to the exposed bone leading to acute to chronic pain at the site of occlusion. (Porter, 1989) Many factors like smoking, use or oral contraceptive could trigger the formation of alveolar osteitis. Smoking and use of oral contraceptives both facilitate blood clotting throughout the body which can reduce blood circulation into the extraction socket correlating with the increased incidence of dry socket lesions in an individual. (Meechan et al., 1988) 21.05% fourth year students and 65.25% interns were aware of smoking increasing the chances for the incidence of dry sockets and 10.53% fourth year students and 35.79% interns were aware that the use of oral contraceptives increased the chances for the incidence of dry sockets.

The basic treatment for dry sockets involves irrigation of the sockets using saline or chlorhexidine gluconate. The debris is completely removed and followed by the application of intraoral medicament like zinc oxide eugenol, povidine iodine and Alvogyl. (Kolokythas et al., 2010) Pain relief is considered the primary goal of treatment in case of dry socket. The composition of both Alvogyl and Zinc oxide eugenol contains eugenol acting as sedative as well as having antibacterial properties. Alvogyl also contains butamben (anesthetic) and iodoform (antimicrobial). (Bloomer, 2000). The response to questions on smoking as risk factor to alveolar osteitis and treatment of alveolar osteitis showed statistically more correct responses from the intern students.

This difference can probably be due to the more clinical and practical exposure of intern students when compared to the fourth year dental students. Alveolar osteitis, being one of the most common complications that can be encountered during dental practise needs to be well understood by all dental practitioners. This post extraction complication can be very painful interfering with the patients regular activities. Hence, it is of utmost importance that as ongoing dental practitioners, students have a clear knowledge on the etiology, mechanism, clinical features and management of dry socket. Proper knowledge on the techniques followed by the dentist is necessary to reduce traumatic extractions. The education of patients on proper healthy practices is necessary to reduce the incidence of post extraction complications. Post extraction instructions should be given carefully to the patients to reduce improper practices following extraction of the tooth.

CONCLUSION

The survey showed that both final year and intern students displayed an overall good knowledge about dry socket and its management. However, intern students showed better understanding than fourth year students which was statistically significant. It can be concluded that dental students eventually gain better insight in the subject with increasing clinical years. However, not all students were clear with the topic of interest. This emphasises the importance of the need for one on one viva and training to ensure every student is equally competent.

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