

KNOWLEDGE AND AWARENESS ON MANAGEMENT OF DRY SOCKET AMONG DENTAL STUDENTS

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Running title: Awareness on dry socket

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ABSTRACT

AIM: To determine the understanding regarding the awareness and knowledge about dry socket management among dental students.

OBJECTIVE: To create awareness and determine the understanding of dry socket management among dental students

METHODS AND MATERIALS: This study was conducted based on questionnaire which consist of 10 questions through a web-linked application called Survey Planet. A convenient sample size of 100 consecutive dental students (3rd year, 4th year and interns) who currently pursuing in Saveetha Dental College, Chennai participated in the study.

RESULTS: As an overall result, most of the participants are aware of dry socket in dentistry. Participants had lack of knowledge about dry socket management.

CONCLUSION: As a conclusion, the awareness on dry socket management has to be improved aiming the budding dentists. Furthermore, they need to be trained on these grounds to help them treating their patients with efficient

KEYWORDS: dry socket; management; alveolar osteitis; blood clot; awareness

INTRODUCTION

Exodontia is a common procedure in dentistry. Dry Socket is one of the delayed post-extraction complication, reported usually 2-4 days postoperatively with moderate to severe pain with the incidence of 0.5-5% in routine extractions. The name dry socket is used because blood clot is lost and covered by a green-grayish membrane. This term was first used in 1896 by Crawford. This term is used because the socket has a dry appearance after the blood clot is lost and debris washed away.[1]

Many other terms are used with the same meaning of dry socket such alveolar osteitis, alveolitis, localized osteitis, alveolitis sicca dolorosa, localized alveolar osteitis, fibrinolytic alveolitis, septic socket, necrotic socket, alveolgia. The socket may be filled with food debris and saliva. The pain radiates to the ear and neck. Histologically, dry socket consists of remnants of the blood clot and an inflammatory response characterized by neutrophils and lymphocyte.[2] The supposed causes of dry socket are trauma during extraction, bacterial infection and biochemical agents. This complication occurs more commonly in the

extraction of the third molars. Trauma from extraction and aggressive curettage cause fibrinolytic activity. [3]

Radiotherapy to the head and neck results in a decreased blood supply to the mandible. Antibiotics influence the incidence of dry socket. Irrigation removes the debris and bacteria from the bare bone in the dry socket.[4] Home instructions for maintenance of oral hygiene and gentle warm saline rinses help in the healing of the socket. Turner stated that curettage and removal of granulation tissue resulted in fewer visits than zinc oxide eugenol or iodo form gauze with eugenol technique.[5]

Since then, other terms have been used to describe dry sockets are localized osteitis, alveolar osteitis (AO), fibrinolytic alveolitis, alveolitis sicca dolorosa, and localized osteomyelitis.4 Dry socket is dislodgment of clot with exposed intrasocket bone (denuded bone) as acute painful complication arising 72 hours postoperatively. Most of published data states that the incidence of dry socket is 1-5% for all routine dental extractions and up to 40% for impacted mandibular third molars.[6]

The incidence of dry socket is higher in the mandible than maxillae, occurring up to 10 times more often for mandibular molars compared with maxillary molars because of dense bone. Clinically dry socket is characterized by severe throbbing pain, marked halitosis, foul odor, and greyish look. Several theories have been documented on the etiology of dry socket including bacterial infection, trauma, and biochemical agents.[7]

According to one theory, there is increased fibrinolytic activity and activation of plasminogen to plasmin in the presence of tissue activators in dry sockets. This fibrinolytic activity is thought to affect the integrity of the post-extraction blood clot.[8] Microscopically, dry socket is characterized by the presence of inflammatory cellular infiltrate, with numerous phagocytes and giant cells in the remaining clot, associated with presence of bacteria and necrosis of the lamina dura.[9]

Some have reported that the inflammatory process can extend to the medullar spaces and sometimes the periosteum, resulting in connective tissue inflammation of the contiguous mucosa, with microscopic features typically of osteomyelitis. Degradation of the blood clot in association with dissolution of erythrocytes and fibrinolysis,[10] deposits of hemosiderin, and the absence of organized granulation tissue has been described in histopathologic investigation of dry socket.[11]

The treatment of dry socket depends on each professional's clinical experience mainly due to its complex etiologic, although many authors have published research on the management of dry socket.[12] Therefore, the concept of management mainly depends upon diagnosis which is mostly conservative but confusion still exists among practitioners in approach to diagnosis and treatment. Ideally recommended treatment is to irrigate the socket to debride and place ZOE / Alveogyl dressing for pain and inflammation.[13] The objective of this study was to evaluate the knowledge of dry socket and its management among dental students in Chennai.

MATERIAL AND METHODS

A convenient sample size of 100 consecutive dental students (3rd year, 4th year and interns) who currently pursuing in Saveetha Dental College, Chennai participated in the study. A cross-sectional observational online based study was conducted. Questionnaire was constructed in Survey Planet website with dichotomous responses and multiple choice questions. The questionnaire consists of 10 questions with the following criteria as shown in Table 1.

Included criteria of questionnaire
<ul style="list-style-type: none"> • Awareness of dry socket • Management of dry socket • Mechanism of dry socket • Interest of dentist on dry socket • Adverse effect of exodontia

Table 1: shows the criteria of questionnaire questions

A link containing these questionnaires was shared with all the participants and required them to answer the questions. All the responses were analysed and recorded.

RESULTS

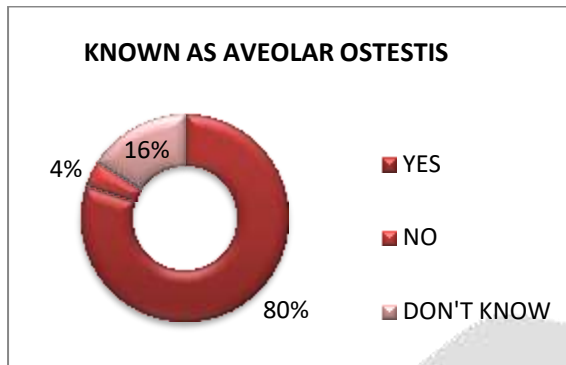


FIGURE 1 shows the percentage of participants aware of another name of dry socket

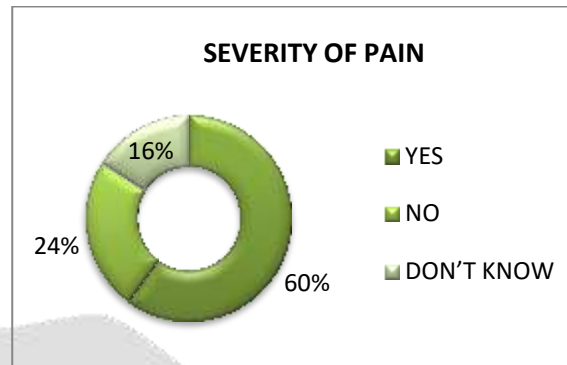


FIGURE 2 shows those who were aware of the severity of pain in dry socket



FIGURE 3 shows the percentage of participants who knew the association of halitosis and food taste in dry socket

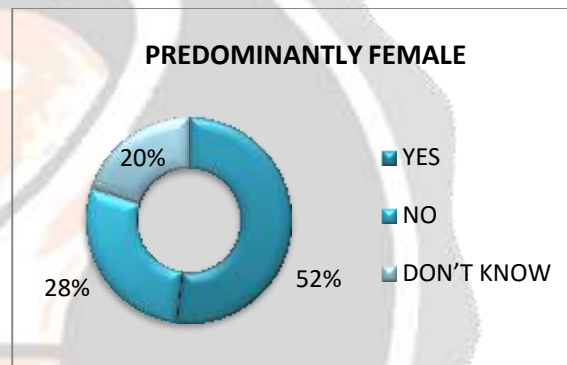


FIGURE 4 shows number of participants who thinks dry sockets is common in females than males due to hormonal changes

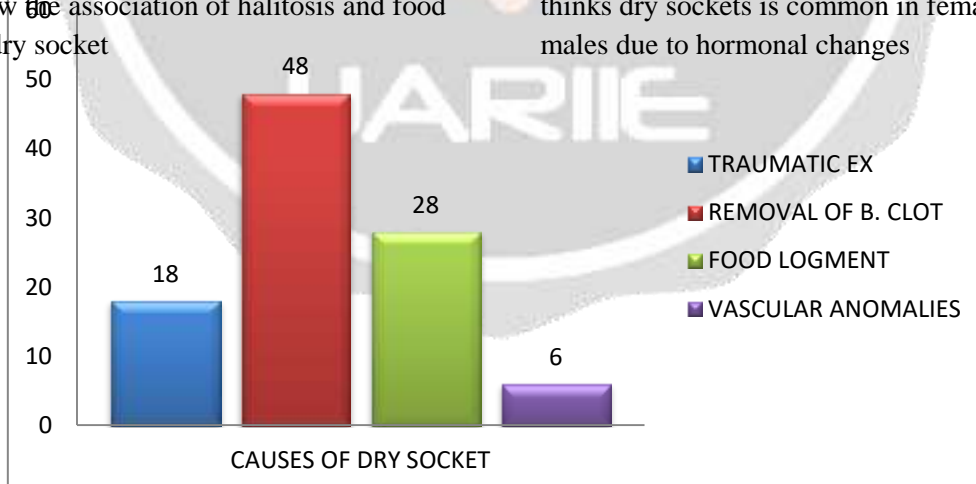


FIGURE 5 shows multiple choice questions regarding causes of dry socket

According to the result dental student are aware of dry socket but are lacks of knowledge about dry socket. Figure 1 shows the percentage of participants aware of another name of dry socket which is alveolar osteitis. 80% of them claimed that they know about it, whereas 4% of them choose no. 16% of dental student have no clue about it.

Another question regarding pain in dry socket increases in severity at any time between first and third day of extraction are agreed by 60% of them. 24% disagreed with this statement, whereas 16% of the dental students have no clues about it, as shown in figure 2.

Figure 3 shows, the percentage of participants who knew the association of halitosis and food taste in dry socket. 68% of them claimed that they know about it. Remaining 16% choose no and don't know, respectively. Figure 4 shows number of participants who thinks dry sockets is common in females than males due to hormonal changes. About 52% of the dental students agreed with the statement whereas 28% of them disagreed. 20% of them don't know anything about it.

Figure 5 shows multiple choice questions regarding causes of dry socket. 48% of the students choose due to removal of blood clot. 28% choose food lodgement and remaining 18% and 6% choose traumatic extraction and vascular anomalies respectively.

DISCUSSION

80 % of participants agreed that a dry socket also referred to as alveolar osteitis, this term was mentioned by Cadoso et al.[14 Pain in dry socket increases in severity at any time between the first and third day after the extraction this statement was known by 71.3% of participants. IN A similar study by Blum et al[15] mentioned that dry socket is accompanied by a partial or total disintegrated blood clot within the alveolar socket. About 83.5% of dentists knew this information.

According to Awang et al.,[16] 81.7% of internship dentists said that dry socket is accompanied by marked halitosis and foul taste. In the section of dry socket causes 38.3% of participants chose trauma during extraction, while 73.9% support the bacterial infection and biochemical agents as a cause of the dry socket[17]. Muhammad et al.,[18] stated that dry sockets occur more frequently in the mandible than the maxilla most of our dentists (80%) agree with this statement as well.

In a study by Sweet et al.,[19] dry socket occurs more frequently in females than males due to possible hormonal cause, the answers about this question was not accurate enough; only 36.5% were sure about the correct answer. According to Younis et al,[20] approximately all dentists (94.8%) are sure that, the incidence of dry socket is significantly higher in smokers than in non-smokers.

CONCLUSIONS

Within the limits of our study, the knowledge of our dental college' internship dentists about dry socket is accepted, except in some points of specific information like (gender, oral contraceptives, and antibiotics) effects on dry socket development.

REFERENCE

1. Bowe DC, Rogers S, Stassen LF(2011). The management of dry socket/alveolar osteitis .J Ir Dent Assoc .57:305-310
2. Crawford JY (1896).Dry socket. Dental Cosmos. 38:929-931
3. Cadoso CL, Rodrigues MT, Ferreira JO, Garlet GP, de Carvalho PS.Clinical concepts of dry socket .J(2010) Oral Maxillofac Surg .68:1922-1932
4. Swanson AE (1989): A double blind study on the effectiveness of tetracycline in reducing the incidence of fibrinolytic alveolitis. J Oral Maxillofac Surg.47:165.
5. Birn H. (1973) Etiology and pathogenesis in fibrinolytic alveolitis (dry socket). Int J Oral Surg .2:211-63
6. Butler DP, Sweet JB.(1977)Effect of lavage on the incidence of localized osteitis in mandibular third molar extraction sites.Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 44:14-20
7. Muhammad AS (2010). Pathogenesis and management of dry socket (alveolar osteitis). Pakistan Oral and Dental Journal. 30(2).
8. Soames JV; Southam JC (1999). Oral pathology (3. ed., [Nachdr.] Ed.). Oxford [u.a.]: Oxford Univ. Press. pp. 296–298.
9. Torres-Lagares D. Serera-Figallo MA, Romero-Ruiz MM, Infante-Cossio P, Garcia M, Gutierrez-Perez JL.(2005) Update on dry socket: a review of the literature. Med Oral Patol Oral Cir Bucal.10:81-85
10. Kaya GS, Yapici G, Sarvas Z, Gungormus M . (2011).Comparison of alvogyl, Salicept patch and low level laser therapy in the management of alveolar osteitis. J Oral Maxillofac Surg .69:1571-1577

11. Fazakerley M, Field EA. (1991). Dry socket: A painful post extraction complication (a review). *Dent Update* .18:31-4
12. Turner PS. (1982). A clinical study of "dry socket". *Int J Oral Surg*. 11:226-31
13. Blum IR. (2002). Contemporary review on dry socket (alveolar osteitis): a clinical appraisal of standardization, aetiopathogenesis and management: a critical review. *International Journal of Oral and Maxillofacial Surgery*. 3(3):309-317
14. Awang MN. (1989). The aetiology of dry socket: a review. *Int Dent J* .39:236-40
15. Sweet DB, Butler DP. (1978). Predisposing and operative factors: effect on the incidence of localized osteitis in mandibular third molar surgery. *Oral Surg Oral Med Pathol*. 46(2):206-213
16. Mohammed H Abu Younis and Ra'ed O Abu Hantash. (2011). Dry Socket: Frequency, Clinical Picture, and Risk Factors in a Palestinian Dental Teaching Center. *Open Dent J*. 5: 7–12.
17. Fridrich, K.L, Olson, R.A. (1990). Alveolar osteitis following surgical removal of mandibular third molars. *AnesthProg*.(1)32-41
18. Lily GE, Osbon DB, Rael Em, Samuels HS, Jones JC. (1974). Alveolar osteitis associated with mandibular third molar extractions. *JADA* .88:802-6
19. Houston JP, McCollum J, Pietz D, Schneck D (2002). Alveolar osteitis: a review of its etiology, prevention and treatment modalities. *Gen Dent* .50:457-63
20. Cadoso CL, Rodrigues MT, Ferreira JO, Garlet GP, de Carvalho PS. Clinical concepts of dry socket. *J(2010) Oral Maxillofac Surg* .68:1922-1932

