KNOWLEDGE, ATTITUDE AND PRACTICE OF DENTAL PRACTITIONERS REGARDING DIAGNOSIS OF TMJ ARTHRITIS

Running Title: Diagnosis of TMJ Arthritis among Dental practitioners

Authors: Dr.Hanshika Ravi BDS,
Saveetha Dental College and Hospital,
Poonamallee High Road, Chennai, India.

Corresponding author:
Dr.Ashish.R.Jain MDS
Research Scholar
Department of Prosthodontics,
Saveetha Dental College and Hospital,
Poonamallee high road,Chennai-600127

ABSTRACT

Background: *Temporomandibular disorder accounts for the most common orofacial pain rising from musculoskeletal region. The diagnosis of TMDs is challenging to a considerable number of practitioners and is influenced by their knowledge, attitude and practices.*
Aim: *To create awareness in dental practitioners about diagnosis of TMJ arthritis.*
Materials and methods: *A questionnaire based study was conducted among 100 dental practitioners to measure the level of knowledge, attitudes and practice of dental practitioners regarding diagnosis of tmj arthritis. The questionnaire consisted of 2 sections, namely, demographic and KAP.The questionnaire was prepared to analyse the knowledge, attitudes and practice of dental practitioners.*
Result: *95% of the practitioners were aware of tmj arthritis. 87% of the practitioners agree that tmj arthritis causes change in facial symmetry in which 70% say it affects unilaterally and the remaining 17% say it is bilaterally.Pain is the most common diagnostic method and surgical method and conservative treatment is common methods used for its management.*
Conclusion: *By this Survey it can be concluded that almost all practitioners have a fair knowledge on TMJ arthritis diagnosis and are willing to admit and treat tmj arthritis patients.*

Keywords: *Temporomandibular joint, arthritis, diagnosis.*

INTRODUCTION:

Temporomandibular disorder (TMD) is a complex multifaceted disorder characterised by pain and tenderness in temporomandibular joint, muscle and other soft tissue[(1).] The temporomandibular joint [TMJ] is one the most frequently involved small joints of the skeleton in the case of inflammatory disease[(2).] The temporomandibular joint (TMJ) is a load bearing modified bilateral, diarthrodial, ginglymoid synovial joint and permits movements in all three planes[(3)] The temporomandibular joint differs from other joints of the body primarily by its sliding function and having joint surfaces and a disc of fibrocartilage[(4).] The TMJ is believed to be in a constant state of remodelling cellular and extracellular matrix turnover.The primary goal of remodelling is to maintain functional and mechanical relationships between articulating surfaces of the joint. Remodelling is an essential biological response to normal functional demands, ensuring homeostasis of joint form and function and an optimal occlusal relationship between the two dental arches.Host factors (ie, age, systemic disease, hormones) may contribute to dysfunctional remodelling of the TMJ, even when the bio mechanical stresses are within a normal physiological range.[(5).] Temporomandibular joint (TMJ) disorders include disorders of articular disc – disc

displacement (DD), and as second, degenerative bone changes or osteoarthritis (OA). Both of these conditions are represented with pathological noises in the TMJ and painful TMJ with loss of function. Limited mouth opening is also a very important clinical sign of TMDs [(6).]Currently, between 10% to 30% of the world's population seeks specialised care for temporomandibular disorders (TMD), which poses one of the most challenging treatment problems in the field of dentistry[(7).]Disruption to the anatomy of this joint from inflammatory changes and trauma could lead to a poor quality of life mainly through pain and functional deficit[(3)].Arthritis of the TMJ is a concern, particularly in patients who are actively growing, because the mandibular growth plate is located below the fibrocartilage and is therefore susceptible to damage from inflammation[(8).]Evidence of TMJ arthritis can be seen in skeletal and anthropological studies dating back to Palaeolithic specimens[(6).]The aim of this study was to investigate the level of knowledge, attitudes and practice of dental practitioners regarding diagnosis of tmj arthritis.

MATERIALS AND METHODS:

A questionnaire based study was conducted among 100 dental practitioners containing 12 questions. The questionnaire consisted of 2 sections, namely, demographic and KAP. The demographic section comprised 5 questions (supplement) on practitioners details The section on kAP consisted of 7 multiple choice question featuring occlusal changes and conditions included in that, diagnosis and management of tmj arthritis.This questionnaire was prepared to measure the level of knowledge, attitudes and practice of dental practitioners regarding diagnosis of tmj arthritis.The questionnaire is given below (Table 1)

RESULTS:

According to the survey information, out of 100 respondents, more than half of them were female (n=55) and the rest were male practitioners (n=45). Differences in knowledge and attitude between male and female dentists were not significant. Twenty six dentists were qualified for more than 5 years, 52 dentists had qualification between 3 to 5 years and 22 members had less than 3 years of qualification. 95% (Fig.3)of the dental practitioners were aware of tmj arthritis and its diagnostic methods. 92% (Fig.4)of the practitioners were aware of change in occlusion during TMJ arthritis. Various conditions involved in change in occlusion such as posterior prematurity, anterior open bite, decreased over- bite, increased over jet, midline shift to the affected side was given and asked to choose an appropriate answer.Their opinion is shown in figure 1.87% of the practitioners agree that tmj arthritis causes change in facial symmetry in which 70% of them are aware that it affects unilaterally and the remaining 17% are unaware and think it is on bilateral aspect.When asked about their opinion on most commonly used method for diagnosing tmj arthritis many gave different responses in which pain in temporomandibular joint was the most commonly suggested method.Many other methods were also suggested. Lack of diagnosis or misdiagnosis can lead to wrong treatment or no treatment, worsening the condition[(3)].34% of the practitioners suggest suggest method for treatment of tmj arthritis.30% of the practitioners suggest conservative method and 26% of them suggest physiotherapy.Only 10% of the practitioners suggest use of drugs like ibuprofen, Naproxen for managing tmj arthritis. Various methods in management of TMD arthritis is shown in figure 2.

DISCUSSION:

In the present survey, it was evident that most of the experts had a good level of knowledge, whereas the general practitioners had low/fair level of knowledge regarding TMJ Arthritis.The present study examined the knowledge, attitudes and practice of dental practitioners regarding diagnosis of tmj arthritis and found that mostly everyone were aware of tmj arthritis.Results of similar studies **Maryam Baharvand et.al**.,shows that the majority of the dentists have a low level of knowledge towards temporomandibular disorders[(1).]This finding is not in line with the results of our study. When asked about the management of tmj arthritis, surgical method was the most suggested of all.In a study conducted by **Abed yeken** et.al.,it is said that many conservative methods have been suggested to be dealer with TMD disorder, but the turning point towards Arthrocentesis occurred since there were improvements in the clinical parameters of the patients who had arthroscopy although there were not any alterations or repositioning to their disks[(12).]Conservative method was also equally suggested method as surgical method. Drugs and physiotherapy were the least commonly suggested method. **Sidebottom AJ et.al.**,says Management of TMD involves a conservative and a surgical arm. Rest, occlusal support, non-steroidal anti-inflammatory drugs (NSAID) in combination can be used to treat majority of patients[(3).]87% of the practitioners agree that tmj arthritis causes change in facial symmetry.The most common diagnostic method for TMJ arthritis is pain.40% of the people suggest pain as the diagnostic method.In a study conducted by **Masato Nishioka** et.al.,Arthritic patients should be counselled to avoid hard food on a permanent basis in an attempt to

further reduce mechanical stress[5].92% of the practitioners are aware of change in occlusion during TMJ arthritis.Although recent findings have shown a decreased role for occlusal factors in TMD, occlusion is one of the main factors for TMD. But not all participants are familiar with the conditions associated with it during TMJ arthritis.That is why the diagnosis and treatment of this disorder is still a challenge in the dental field[9].Pain is the most common diagnostic method. Recently,Cone Beam Computed Tomography (CBCT) has been introduced, which is a suitable investigative tool to examine the TMJ without superimposition and distortion to determine the bone morphology, joint space and dynamic function[3].

CONCLUSION:

According to the results, the level of knowledge and attitude of general dental practitioners regarding TMJ arthritis is desirable. The majority are willing to admit and treat TMJ arthritis patients.Hence, it can be concluded that curricula of the dental schools is good. It is therefore important to develop and strengthen undergraduate dental teaching and continuous education programs in TMD and orofacial pain.

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SAMPLE QUESTIONNAIRE:

1)Are you aware of tmj arthritis?
2)Will tmj arthritis cause change in occlusion? a)yes b)no
3)If YES which of the conditions are included A)posterior prematurity B)anterior open bite C)decreased over- bite D)increased over jet E)midline shift to the affected side F) Don't know
4)Will it cause change in facial symmetry? a)yes b)no
5)if YES unilateral/bilateral
6)what according to you is the most commonly used method for diagnosing tmj arthritis?
7)How will you manage tmj arthritis?

Figure 1:Conditions under change in occlusion

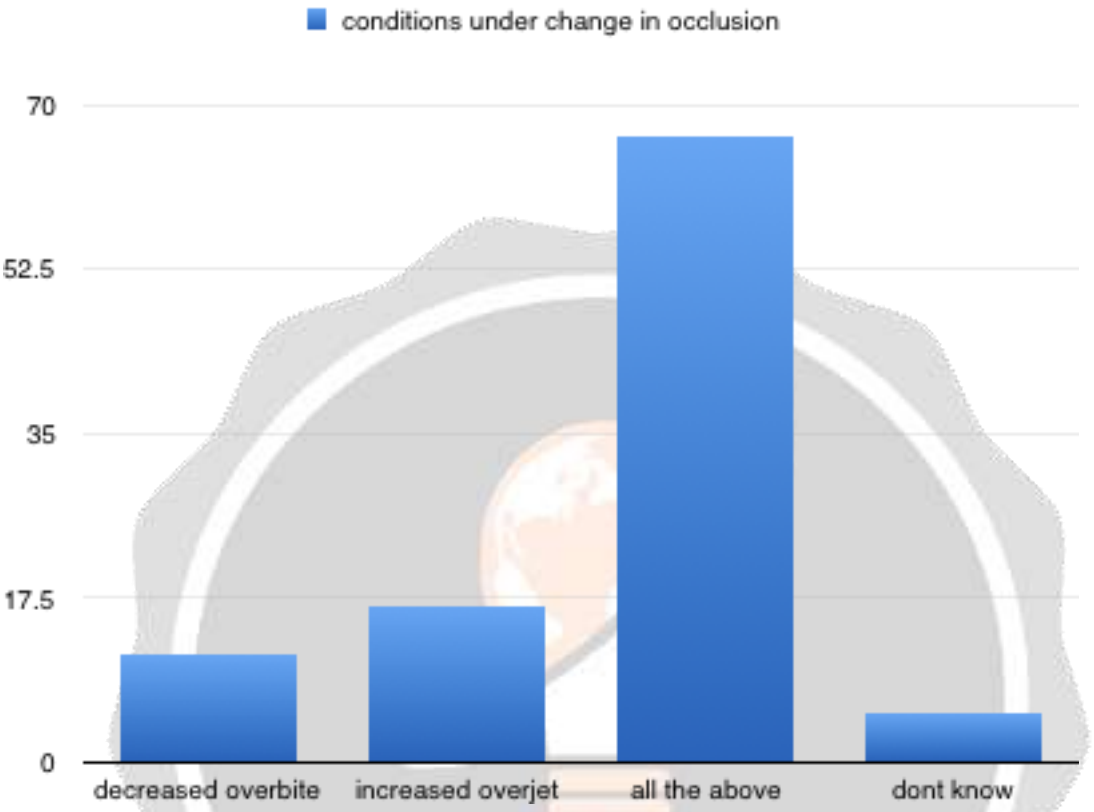

Figure 2: Management of TMJ arthritis.

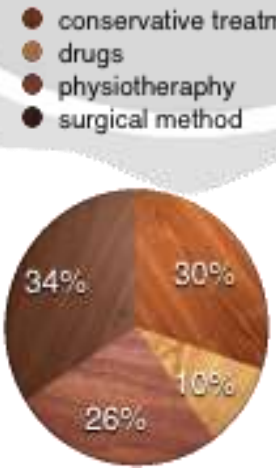

Figure 3:Awareness on tmj arthritis.

Figure4:TMJ arthritis cause change in occlusion