ABSTRACT

PURPOSE: The aim of this study was to evaluate the action of splint therapy on the muscles of mastication namely Temporalis and Masseter in patients with temporomandibular joint dysfunction syndrome using a muscle force transducer

MATERIALS AND METHOD: This is a prospective study in fifteen patients reporting to, Ragas Dental College and Hospital, Chennai, Out Patient diagnosed with untreated temporomandibular dysfunction syndrome between 18 and 60 years of age. All the patients included were in the early stages of the disorder and were only treated with a conservative approach by means of medications and splint therapy. Advanced stages of dysfunction was not included in this study as at least minimal surgical intervention would have been required. An MRI was done for these cases to rule out advanced stage of disease following which patient specific splints were provided. A muscle force transducer was attached over the masseter and temporalis muscles independently and the muscle activity was recorded at the time of presentation of the disorder, 1 month, 2 months and 3 months after delivery of the splints. Along with muscle activity gender prevalence, pain scores, severity of disorder, presence of impacted third molars, parafunctional habits and effectiveness of the treatment were also evaluated

RESULTS: The Study Revealed that TMJ dysfunction had a female predilection and was closely associated with patients having impacted third molars and parafunctional habits. An overall reduction in the pain score and muscle activity was seen in all the patients. Muscle activity values that reverted back to the normal range was seen in 14 of the 15 patients

CONCLUSION: It can be concluded that splints play an important role in relieving patients with TMJ dysfunction syndrome. The transducer can be used as an efficient diagnostic tool to record muscle activity and to objectively determine the duration of splint therapy rather than solely relying on subjective evaluations.

Key words: **Temporomandibular Joint, Transducer, Splints, Muscle Activity, Conservative management;**