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## Prevalence of Temporomandibular joint disorders in paediatric age group

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### Abstract

TMJ malfunction is quiet common in swimmers. This study is done to understand the prevalence of the disorders associated with swimming in paediatric age group. According to previous studies there is a high demand on neck rotation and upper limb activities for the propulsion of the body inside the water and which negative synchronized activities of jaw and mastication structure. There is no studies have been attempted to find out the prevalence of TMD among competitive swimmers through there is a greater demand on TMJ structure due to their swimming mechanics.

**Keywords:** Swimming, Disorders, TMJ, Paediatric cases

### Introduction

TMJ dysfunction is multifactorial disorder commonly associated with masticatory and articular disabilities and it is the combination of physiological structural and postural factors leads to derangement of functional balance between structures of TMJ. The association of pain is an important symptom has leads to need for investigation of epidemiology. However, swimming is a unique sport requires combination action of both the extremities and trunk motions. According to previous studies there is a high demand on neck rotation and upper limb activities for the propulsion of the body inside the water and which negative synchronized activities of jaw and mastication structure. The importance of epidemiology of mastication and its knowledge requires effective diagnosis and therapeutic planning to completely all alleviate signs and symptoms. Previous studies has evaluated the prevalence of TMJ disorder among various population But till date there is no studies have been attempted to find out the prevalence of TMD among competitive swimmers through there is a greater demand on TMJ structure due to their swimming mechanics. This study is done to understand the prevalence of the disorders associated with swimming in paediatric age group.

### Aim of the study

To find out the prevalence of TMD in paediatric cases.

### Materials and Methods:

**This** study was done in the Department of Paediatrics, Kanachur Institute of Medical Sciences, Mangalore.

**Study setting:** Department of paediatrics, Kanachur Institute of Medical Sciences, Mangalore.

**Study duration:** April 2018- May 2020

**Inclusion Criteria:**

- Only paediatric cases.
- Having conclusive TMJ disorders.

**Exclusion Criteria:**

- On steroids
- With congenital anomalies of jaw.

The cases were thoroughly examined and the complaints were checked. The history was carefully taken and the incidences of different complaints related with TMJ pathologies were noted and reported.

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**Results**

**Table 1:** Descriptive statistics for age of competitive swimmers

Age	
Mean	9.26
SD	1.7

**Table 2:** Descriptive statistics for gender of competitive swimmers

	Frequency
Male	76
Female	24

**Table 3:** Descriptive statistics for currently suffering any pain in body parts (jaw, forehead, ear, dental pain)

Sl No:	Character/ Variable	Frequency
1	Jaw Pain	51
2	Pain In Forehead	12
3	Pain In The Ear	37
4	Dental Pain	15

**Table 4:** Statistic for any pain in the jaw activities, in the last 30 days

S No	Character/ variable	Frequency
1	Chewing hard food or tough food	37
2	Opening mouth or moving jaw forward or to side	07
3	While jaw habits (clenching, grinding, etc.)	1
4	Other jaw activities (talking, kissing, yawning)	1

**Discussion**

During swimming mostly favor the oro- nasal breathing, that leads to dysfunction of temporomandibular joint disorders due to muscle imbalance and also unilateral and bilateral repetitive cervical rotation also can leads to temporomandibular joint disorders due to cervical muscle imbalance. This study was conducted in Mangalore and Kerala by distribution of the questionnaire to the swimmers in different sports clubs and swimming clubs. The distributed questionnaires were collected on the same day and further examination was done used by TMD/RDC criteria. In the present sample of 155 subjects, we assessed the prevalence of temporomandibular disorders.

According to previous studies we found that, in competitive swimmers there is a high demand on neck rotation and upper limb activities for the propulsion of the body inside the water and which negative synchronized activities of jaw and mastication structure. The supra hyoid and infra hyoid affect the balance between the flexors and extensors of the head and neck dysfunction in either these muscles or cervical muscles can easily disturb in this normal balance [8]. Increases muscular activity in the anterior cervical (longus coli) and hyoid muscle will turn in cause tightness in the through and difficulty in swallowing. Mouth breathing is an important contributing factor. Breathing through the mouth facilitates forward head posture and a low and forward tongue position [7]. In the current study we can found 50% of neck is present with TMD. 13.2% of male and 13.92% female have present with TMD. Backstroke swimmers were more prevalent (13.8) to TMD. And in current study not identified risk factors causing TMD in competitive swimmers.

**Conclusion**

The result of the study demonstrates that temporomandibular joint disorders are prevalent in paediatric age group. This study is intended to be of great help to practising paediatricians and also physicians and physiotherapists who deal with sports medicine.

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