# HUBUNGAN ANTARA LAMA PENYELAMAN MENGGUNAKAN *COMMERCIAL MOUTHPIECE* SCUBA *DIVING* DENGAN GANGGUAN SENDI TEMPOROMANDIBULA PADA PENYELAM TENTARA NASIONAL INDONESIA ANGKATAN LAUT (TNI-AL)

## ABSTRAK

**Pendahuluan:** *Commercial Mouthpiece* merupakan bagian *Self Contained Underwater Breathing Apparatus* (SCUBA) yang menyebabkan gangguan rongga mulut serta mikrotrauma sendi temporomandibula dan otot-otot pendukungnya apabila digunakan berulang dan dalam waktu yang lama, kondisi ini dikenal dengan *Diver's Mouth Syndrome* (*DMS*). Indeks Helkimo merupakan alat ukur menilai derajat keparahan gangguan sendi temporomandibula didasarkan nilai *Anamnestic index* (*Ai*) dan *Dysfunctional index* (*Di*) dengan keunggulan alat ukur yang sederhana, ekonomis, cepat pada survei epidemiologi, dan mudah diterapkan pada jumlah besar. **Tujuan**: Menilai hubungan lama penyelaman menggunakan *commercial mouthpiece* SCUBA *diving* pada penyelam TNI-AL terhadap nilai *Ai* dan nilai *Di* serta hubungan nilai *Ai* dan nilai *Di* sebagai instrumen penilaian gangguan sendi temporomandibula. **Metode:** Deskriptif korelasi digunakan pada penelitian ini dengan jumlah sampel 39 penyelam militer yang dipilih secara *purposive sampling* dan sesuai kriteria inklusi. Penelitian dilakukan dengan wawancara kuisioner, pemeriksaan odontogram, serta pemeriksaan sendi temporomandibula di Lembaga Kesehatan Dinas Penyelamatan Bawah Air (Dislambair) Komando Armada I, Tanjung Priok. Datanya adalah lama penyelaman, distribusi frekuensi gangguan temporomandibula secara penilaian *Ai* dan *Di*, kemudian dianalisis menggunakan uji *Spearman rank*. **Hasil:** Koefesien korelasi (*r*) lama penyelaman menggunakan *commercial mouthpiece* SCUBA *diving* terhadap *Ai* adalah 0.510(*P-value* = 0.001) dan *Di* adalah 0.625(*P-value* = 0.001), serta nilai *r* antara nilai *Ai* dan nilai *Di* adalah 0.454(*P-value = 0.004)*. **Simpulan:** Terdapat hubungan signifikan positif kuat antara lama penyelaman menggunakan *commercial mouthpiece* SCUBA *diving* pada penyelam TNI-AL terhadap nilai *Ai* dan nilai *Di* serta terdapat hubungan signifikan positif moderat antara nilai *Ai* terhadap nilai *Di* sebagai gambaran gangguan temporomandibula penyelam TNI-AL.

**Kata kunci:** *Commercial Mouthpiece* SCUBA *diving*, Gangguan Sendi Temporomandibula, *Diver's Mouth Syndrome* (DMS), Indeks Helkimo.

*Relationship Between Duration of Diving Using Commercial Mouthpiece*
**SCUBA** *Diving and Temporomandibular Disorder in Indonesian*
*Navy Divers: A Cross-sectional Study*

## ABSTRACT

***Introduction:*** *A commercial mouthpiece is part of Self Contained Underwater Breathing Apparatus (*SCUBA*) which causes disturbances to the oral cavity as well as microtrauma to the temporomandibular joint and its supporting muscles when used repeatedly and for a long time, this condition is known as Diver's Mouth Syndrome (*DMS*). The Helkimo index is a measuring tool to assess temporomandibular joint disorders based on Anamnestic index (Ai) and Dysfunctional index (Di) values with the advantages of a simple measuring instrument, low cost, and fast to carry out in epidemiological surveys.* ***Objectives:*** *analyzing the relationship between the duration of diving using a commercial mouthpiece SCUBA diving in Indonesian Navy divers to Ai and Di on the Helkimo index and the relationship between Ai and Di values as an instrument for evaluating temporomandibular joint disorders.* ***Method:*** *The correlation descriptive method was used in this study with a total sample of 39 military divers selected by a purposive sampling approach and according to the inclusion criteria. The research was conducted using interviews questionnaires, odontogram examinations, and temporomandibular joints examinations at the health section of Underwater Rescue Service (*Dislambair*) Fleet Command I,* Tanjung Priok*, then the data collected was in the form of dive duration, distribution and frequency of temporomandibular disorders with Ai and Di assessment, analyses using the Spearman Rank correlation test.* ***Results:*** *The correlation coefficient (r) between the length of dives using the commercial mouthpiece SCUBA diving to the Ai is 0.510(P-value=0.001) and Di is 0.625(P-value=0.001), and the r-value between the Ai value and Di value is 0.454(P-value=0.004).* ***Conclusion:*** *There is a strong positive significant correlation between the length of dives using the commercial mouthpiece SCUBA diving to Ai and Di values, also there is a moderate positive significant correlation between the Ai values and the Di values as an instrument for evaluating temporomandibular joint disorders.*

*Keywords: Commercial Mouthpiece* **SCUBA** *diving, Temporomandibular Joint Disorders, Diver's Mouth Syndrome (*DMS*), Helkimo Index.*