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The Angle Orthodontist: Vol. 62, No. 4, pp. 249–256.

An orthodontic study of temporomandibular joint disorders Part 1: Epidemiological research in Japanese 6–18 year olds

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ABSTRACT

Malocclusion is considered one of the etiological factors of temporomandibular joint disorder (TMD). The purpose of this study was to investigate the prevalence of TMD and the relationship between TMD and the type of occlusion. The sample consisted of 7337 Japanese children, 6–18 years old, 3219 boys and 4118 girls. TMD symptoms were recorded as well as the type of occlusion in children with TMD.

The prevalence of TMD overall was 12.2%. The prevalence increased with age and was slightly higher in girls (13%) than in boys 11.1%. This difference was not statistically significant. Joint sound as the only symptom was more common in younger subjects. TMD symptoms seemed more complicated with age when pain and abnormal jaw movement combined with sound. Joint sound was the most common symptom (89.3%), followed by the combination of sound and pain (2.2%). The incidence of other symptoms was under 1%. In subjects with TMD, 24.9% exhibited crowding, 20.1% had excessive overjet, 6.8% deep bite, 6.3% edge-to-edge bite, 5.6% anterior crossbite, 5.4% open bite, and 3.8% posterior crossbite. Morphologically normal occlusion was observed in 27.1%. In this study, many subjects with TMD had malocclusions. Early treatment may be important in the prevention of severe TMD. Although those with morphologically normal occlusions were included, a more detailed study concerning other causes of TMD is needed also.

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KEY WORDS: Malocclusion, Temporomandibular joint disorder, Epidemiological research.