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KEYWORDS

Malocclusion; Class III; Prevalence; Systematic Review; Meta-Analysis

Indian populations have a lower prevalence than all other racial groups examined.

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explained by population. Conclusion: These results suggest that the prevalence of Angle class III malocclusion varies greatly within different races and geographic regions. Chinese and Malaysian populations have a higher prevalence of Angle class III malocclusion compared to other racial groups, while

References

- [1] Proffit, W.R., Fields, H.W. and Sarver, D.M. (2007) Contemporary orthodontics. Mosby, St. Louis.
- [2] Angle, E.H. (1899) Classification of malocclusion. Dental Cosmos, 41, 248-264.
- [3] Graber, T., Vanarsdall, R. and Vig, K. (2005) Orthodontics: Current Principles and Techniques. Mosby, St. Louis.
- [4] Lew, K.K., Foong, W.C. and Loh, E. (1993) Malocclussion prevalence in an ethnic Chinese population. Australian Dental Journal, 38, 442-449. doi:10.1111/j.1834-7819.1993.tb04759.x
- [5] Tang, E.L. (1994) Occlusal features of Chinese adults in Hong Kong. Australian Orthodontic Journal, 13, 159- 163.
- [6] Tang, E.L. (1994) The prevalence of malocclusion amongst Hong Kong male dental students. British Journal of Orthodontics, 21, 57-63.
- [7] Woon, K.C., Thong, Y.L. and Abdul Kadir, R. (1989) Permanent dentition occlusion in Chinese, Indian and Malay groups in Malaysia. Australian Orthodontic Journal, 11, 45-48.
- [8] Soh, J., Sandham, A. and Chan, Y.H. (2005) Occlusal status in Asian male adults: prevalence and ethnic variation. Angle Orthodontist, 75, 814-820.
- [9] Soh, J., Sandham, A. and Chan, Y.H. (2005) Malocclusion severity in Asian men in relation to malocclusion type and orthodontic treatment need. American Journal of Orthodontics & Dentofacial

- Orthopedics, 128, 648-652. doi:10.1016/j.ajodo.2005.05.045
- [10] Onyeaso CO. Prevalence of malocclusion among adolescents in Ibadan, Nigeria. American Journal of Orthodontics & Dentofacial Orthopedics, 126, 604-607. doi:10.1016/j.ajodo.2003.07.012
- [11] Dacosta, O.O. (1999) The prevalence of malocclusion among a population of northern Nigeria school children. West African Journal of Medicine, 18, 91-96.
- [12] Otuyemi, O.D. and Abidoye, R.O. (1993) Malocclusion in 12-year-old suburban and rural Nigerian children. Community Dental Health, 10, 375-380.
- [13] Mtaya, M., Brudvik, P. and Astrom, A.N. (2009) Prevalence of malocclusion and its relationship with sociodemographic factors, dental caries, and oral hygiene in 12- to 14-year-old Tanzanian schoolchildren. European Journal of Orthodontics, 31, 467-476. doi:10.1093/ejo/cjn125
- [14] Rwakatema, D.S., Ng' ang' a, P.M. and Kemoli, A.M. (2006) Prevalence of malocclusion among 12-15-year-olds in Moshi, Tanzania, using Bjork' s criteria. East African Medicine Journal, 83, 372-379. doi:10.4314/eamj.v83i7.9449
- [15] Mugonzibwa, E.A., Mumghamba, E., Rugarabamu, P. and Kimaro, S. (1990) Occlusal and space characteristics among 12-year-old school children in Bukoba and Moshi, Tanzania. African Dental Journal, 4, 6-10.
- [16] Abu Affan, A.H., Wisth, P.J. and Boe, O.E. (1990) Malocclusion in 12-year-old Sudanese Children. Odontostomatol Trop, 13, 89-93.
- [17] Diagne, F., Ba, I., Ba-Diop, K., Yam, A.A. and BaTamba, A. (1993) Prevalence of malocclusion in Senegal. Community Dentistry and Oral Epidemiology, 21, 325-326. doi:10.1111/j.1600-0528.1993.tb00786.x
- [18] Ng' ang' a, P.M., Karongo, P.K., Chindia, M.L. and Valderhaug, J. (1993) Dental caries, malocclusion and fractured incisors in children from a pastoral community in Kenya. East African Medical Journal, 70, 175-178.
- [19] El-Mangoury, N.H. and Mostafa, Y.A. (1990) Epidemiologic panorama of dental occlusion. Angle Orthodontist, 60, 207-214.
- [20] Behbehani, F., Artun, J., Al-Jame, B. and Kerosuo, H. (2005) Prevalence and severity of malocclusion in adolescent Kuwaitis. Medical Principles and Practice, 14, 390-395. doi:10.1159/000088111
- [21] Gelgor, I.E., Karaman, A.I. and Ercan, E. (2007) Prevalance of malocclusion among adolescents in central Anatolia. European Journal of Dentistry, 1, 125-131.
- [22] Sidlauskas, A. and Lopatiene, K. (2009) The prevalence of malocclusion among 7 15-year-old Lithuanian children. Medicina (Kaunas), 45, 147-152.
- [23] Perillo, L., Masucci, C., Ferro, F., Apicella, D. and Baccetti, T. (2010) Prevalence of orthodontic treatment need in southern Italian schoolchildren. European Journal of Orthodontics, 32, 49-53. doi:10.1093/ejo/cjp050
- [24] Gauba, K., Ashima, G., Tewari, A. and Utreja, A. (1998) Prevalence of malocclusion and abnormal oral habits in North Indian rural children. Journal of Indian Society of Pedodontics and Preventive and Dentistry, 16, 26-30.
- [25] Bishara, S.E., Hoppens, B.J., Jakobsen, J.R., Kohout, F.J. (1988) Changes in the molar relationship between the deciduous and permanent dentitions: a longitudinal study. American Journal of Orthodontics and Dentofacial Orthopedics, 93, 19-28. doi:10.1016/0889-5406(88)90189-8
- [26] Ishii, H., Morita, S., Takeuchi, Y. and Nakamura, S. (1987) Treatment effect of combined maxillary protracttion and chincap appliance in severe skeletal Class III cases. American Journal of Orthodontics and Dentofacial Orthopedics, 92, 304-312. doi:10.1016/0889-5406(87)90331-3
- [27] Yang, W.S. (1990) The study on the orthodontic patients who visited department of orthodontics, Seoul National University Hospital. Taehan Chikkwa Uisa Hyophoe Chi, 28, 811-821.
- [28] Steigman, S., Kawar, M. and Ziberman, Y. (1983) Prevalence and severity of malocclusion in Israeli Arab urban children 13 to 15 years of age. American Journal of Orthodontics, 84, 337-243. doi:10.1016/S0002-9416(83)90350-0
- [29] Ravanmehr, H. and Rashidi-Birgani, M. (1998) A study on prevalence of dentofacial anomalies in 12 to

- 14 years old students in Tehran. Journal of Dentistry of Tehran University of Medical Sciences, 11, 38-45.
- [30] Danaie, S.M., Asadi, Z. and Salehi, P. (2006) Distribution of malocclusion types in 7 9-year-old Iranian children. Eastern Mediterranean Health Journal, 12, 236-240.
- [31] Borzabadi-Farahani, A., Borzabadi-Farahani, A. and Eslamipour, F. (2009) Malocclusion and occlusal traits in an urban Iranian population. An epidemiological study of 11- to 14-year-old children. European Journal of Orthodontics, 31, 477-484. doi:10.1093/ejo/cjp031
- [32] Ramezanzadeh, B.A. and Hosseiny, S.H. (2005) Evaluation of prevalence of dental malocclusion in junior high school students in the city of Neishabour in year 2002-2003. Journal of Dentistry of Mashhad University of Medical Sciences, 29, 57-66.
- [33] Sayin, M.?. and Türkkahraman, H. (2004) Malocclusion and crowding in an orthodontically referred Turkish population. Angle Orthodontist, 74, 635-639.
- [34] Lundstr?m, A. and Lundstr?m, O. (1969) A dental examination of the mixed and permanent dentitions in a Nubian population. Acta Odontologica Scandinavica, 27, 371-386. doi:10.3109/00016356909040416
- [35] Hirschowitz, A.S., Rachid, S.A. and Cleaton-Jones, P.E. (1981) Dental caries, gingival health and malocclusion in 12-year-old urban Black schoolchildren from Soweto, Johannesburg. Community