Letter to the Editor

Skeletal Age Assessment; Are We Being Fair To Our Children?

Madam, Assessment of Skeletal age is an important tool that forms the basis of decision making in various clinical and medico-legal scenarios. It can be used as a measure of growth and maturity in the paediatric population. It also finds application in endocrinology, orthopaedics, orthodontics, and forensics.[1,2] Various methods are available for measuring skeletal age, such as comparison with the Greulich-Pyle (GP) atlas[3] and Tanner-Whitehouse scoring system. Among these, the GP atlas is most widely used owing to its greater ease of application and reduced assessment time.[1,4]

The GP atlas is based on data derived in the middle of 20th century from children of North European descent residing in Ohio, USA. Almost all of these children belonged to high socio-economic status families.[3] Explorations into anthropometric measurements of Pakistani children have demonstrated the linear growth patterns of our children to be different from the references of norms developed in foreign populations with a dissimilar socio-economic status (SES) and ethnic background.[5,6] It follows logically that the patterns of skeletal maturity may also vary across populations. In fact, there is some evidence suggesting that the tempo of skeletal maturity varies with the ethnic background, SES and nutritional status.[1] Understandably, reservations regarding the applicability of the GP atlas for an accurate assessment of skeletal maturity in populations different from the original one have been raised from various quarters of the world.[4,7] Even in USA, where this reference was developed, a cautious approach towards the use of GP atlas in the face of changing ethnic profile has been recommended.[1] Recognizing the importance of accurate assessment of bone age, endeavors to establish the applicability of GP atlas to the local population have been made in various countries and adaptations of the GP atlas befitting for specific populations have been recommended on their basis.[1,4,7]

Unfortunately, there is a dearth of literature from Pakistan on this important subject. Few limited explications suggest that the pattern of skeletal maturity in the local children may be different from the currently used foreign standards; with differences of up to six months between chronological age and skeletal age being reported.[2] However, the results of these explorations may not be generalized to the whole Pakistani population owing to certain limitations.

In conclusion, an inaccurate measurement of bone age may arguably lead to a sentence inappropriate for age, an unfair advantage over the competitors in sports or sub-optimal care in a clinical scenario. It is imperative to

establish the applicability of the foreign standards to the local population before using these methods for making important decisions for our children. A multi-centre, collaborative effort is of the essence to achieve this goal and to develop local references of norms for the local children.

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