Editorial

Establishing Indian Normative Data for the Upper Extremity: A Multicentric Project of ISSH

Dinesh Kadam[1]

[1] Department of Plastic and Reconstructive Surgery, A.J. Institute of Medical Sciences and Research Centre, Mangalore, Karnataka, India

Indian J Plast Surg 2024;57:245–246.

Normative data refer to standardized values that describe the typical range of measurements within a specific population. These data are used as reference values to indicate what is typical or average within a particular population. Clinical assessments, diagnosis, treatment plans and rehabilitation protocols, and ergonomic designs for the given population rely on these data as crucial benchmarks. In the disorders of the hand and upper extremities, normative data of the population become relevant and vital for assessing function and growth and designing a management protocol.

Until now, India has lacked reliable normative data for the upper extremities that reflect the unique genetic, occupational, and cultural characteristics of its population. This gap has often necessitated the use of data from other populations, which may not accurately capture the variations present in Indian patients. Potentially, this could lead to inaccurate assessments, misdiagnosis, and suboptimal rehabilitation outcomes. Recognizing this critical need, the Indian Society for Surgery of the Hand (ISSH) undertook a pilot project to collect comprehensive normative data through multicentric studies across India. In this special issue of the *Indian Journal of Plastic Surgery (IJPS)*, we proudly present these much-awaited results.

The Significance of Indian Normative Data

India's diverse population encompasses a wide range of physical types, occupational practices, and cultural habits that influence the function and morphology of the upper extremities. Factors such as manual labor, traditional crafts, and culturally specific activities distinctly impact the hand and wrist. Cultural practices such as using fingers and hands in eating, religious rituals, and traditional dance forms influence hand dexterity and muscle use. Further wide variations in physical characteristics can result in different baseline standards for the region and population. Thus, the reliance on Western or any other population for normative data could potentially result in discrepancies, inaccuracies, and overall suboptimal patient care. Equally, rehabilitation professionals need reliable data to design therapy protocols that align more closely with the baseline functional abilities of Indian patients. This is especially important for those recovering from injuries, surgeries, or conditions such as arthritis, where individualized rehabilitation can significantly impact outcomes.

A Pilot Project of the Indian Society for Surgery of the Hand

The collection of normative data is no small feat, requiring coordinated efforts across multiple centers, and rigorous data collection under standardized methodologies. Supported by the ISSH, data from the South, West, North, and Central zones were collected involving a large sample size. Studies were conducted in these different regions involving diverse age groups and occupational backgrounds to ensure that the data reflected the true diversity of the Indian population.

This special issue presents normative data that provide critical benchmarks from 11 different studies conducted by various centers and evaluators. This multicentric data from across Indian cities encompass functional evaluation of motor and sensory, anthropometric measurements, radiological data, and the presence or absence of donor tendons for transfers. The normative data for functional evaluation include the range of motions of fingers, four-parameter grip and pinch strength, and static two-point discrimination (2PD) for sensation. Anthropometric measurements of thumb length, the angle of the first web space, ulnar length, normative rate of nail growth, and presence or absence of donor tendons add crucial data on the Indian population. A comprehensive radiological study on metacarpal bone, carpal bones, and scaphoid is invaluable and throws

Address for correspondence Dinesh Kadam, MS, DNB, MCh, Department of Plastic and Reconstructive Surgery, A.J. Institute of Medical Sciences and Research Centre, Mangalore 575004, Karnataka, India (e-mail: drkadam2@gmail.com).

DOI https://doi.org/10.1055/s-0044-1791229.
ISSN 0970-0358.

Thieme Medical and Scientific Publishers Pvt. Ltd., A-12, 2nd Floor, Sector 2, Noida-201301 UP, India

some interesting comparative data. With baseline reference values for grip strength, pinch strength, and range of motion specific to the Indian population, more precise diagnoses and tailored treatment plans can now be undertaken.

As we present this special issue of *IJPS*, we hope that the data within will help clinical practice and inspire further research on different parameters. I thank all contributors for making this historic achievement possible. I express my gratitude to Dr. Mukund Thatte for his concept, supervision, and timely preparation of the manuscripts. The support of Dr. Rajendra Nehete, the President of ISSH, Dr. Anil Bhat, the Honorary Secretary of ISSH, and Dr. Raj Sabapathy, the Trustee of ISSH, is greatly appreciated.

