Chapter III

METHODOLOGY

Based on the objectives laid down in the present the following methods and tools were used to obtain the data,

DESIGN OF THE STUDY

Sources of Data and Information

The different sources and methods used by the researcher to gather data and information about the selected anthropometric measurements and performances of cricket players of Hyderabad Karnataka region. The researcher visited the six districts when the district level U-16 and U-19 cricket tournament matches are held.

The source of data collection and information for this investigation is further divided as both primary and secondary resources.

Primary Resources

The original data, material and information is collected from the following primary resources,

(a) Data Collection of Anthropometric Measurements

The researcher with the help of trained assistants measured the selected anthropometric variables of body. Before undergoing the test, all the athletes were informed about the testing procedures. Height was measured with a stadiometer to the nearest 1mm. Body weight was measured with a weighing machine and arm length, leg length and shoulder girth are measured with a non-elastic tape to the nearest 1mm.
(b) Anthropometric Variables

All the subjects’ anthropometric measurements are taken: body weight, height, shoulder girth, total arm length and total leg length.

(c) Data Collection of Performances

All the Cricket and Cricket matches’ total scores of each winning and losing team during the district matches are taken by collecting the score sheets.

(d) Documents

Researcher visited various physical education and sports institutions such as Laxmibai National University of Physical Education, Gwalior, Netaji Subhas National Institute of Sports, Patiala and various universities to get the related data information of the study in the form of Ph.D and M.Phil thesis, Papers, Articles, journals and Books etc.

(e) Archival Records

The official score records in the score sheets and name lists, etc. are collected and studied and information and data are retained for the study.

Secondary Resources

The total population size of participants and the performances (total scores) of each cricket team are taken during the district matches for further analysis.

TOOLS

1. Stadiometer
2. Weighing machine
3. Measuring tape
Selection of Subjects and Sample Design:

To achieve the purpose of the study total 360 cricket players (U-16 & U-19) were selected randomly from six districts of Hyderabad Karnataka region and they are presented in the following sample design table.

<table>
<thead>
<tr>
<th>Cricket Players</th>
<th>Kalaburagi</th>
<th>Ballary</th>
<th>Raichur</th>
<th>Yadgir</th>
<th>Koppal</th>
<th>Bidar</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-16</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>180</td>
</tr>
<tr>
<td>U-19</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>180</td>
</tr>
<tr>
<td>Grand Total</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>360</td>
</tr>
</tbody>
</table>

Criterion Variables:
Each sport demands specific requirement of physical parameters for successful performance, the importance of physical parameters lies in the fact that in majority of the sports, it scores as the basis for good performance. The selected anthropometric measurements like body weight, height, shoulder girth, total arm length and total leg length were selected.

Selection of Tests:
To measure the selected variables the respective tests are administered and represented in the table 1.

<table>
<thead>
<tr>
<th>S. N</th>
<th>Variables</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Anthropometric Measurements</td>
<td>Height and Weight (Weighing Machine and Stadiometer), Steel measuring tape (shoulder girth, total arm length and total leg length).</td>
</tr>
</tbody>
</table>
**Instrument Reliability:**

In the present study standard equipments such as weighing machine, stadiometer and steel measuring tape which are available in the laboratory, Department of Physical Education Gulbarga University, Kalaburagi were used.

**TEST ADMINISTRATION:**

The researcher does pilot approach to the places of six districts of Hyderabad Karnataka region where the district U-16 and U-19 cricket tournaments were organized. The researcher was collected the data related to present study in the following methods,

**a) Measurement of Height:** Purpose to measure the maximum height.

   Equipment Used: Stadiometer.

   ![Investigator measuring height of Cricket players](image-url)
b) **Measurement of Weight**: Purpose to measure the maximum weight.


![Investigator measuring weight of Cricket players](image1)

**c) Measurement of Arm Length**: Purpose to measure the total length of arm.

Equipment Used: Measuring tape.

![Investigator measuring arm length of Cricket players](image2)
d) **Measurement of Leg length:** Purpose to measure the total length of leg.
Equipment Used: Measuring tape.

![Investigator measuring leg length of Cricket players](image1)

e) **Measurement of Shoulder Girth:** Purpose to measure the shoulder width.

Equipment Used: Measuring tape.

![Investigator measuring shoulder length of Cricket players](image2)
Body Mass Index Norms:

<table>
<thead>
<tr>
<th>Classification</th>
<th>BMI (kg/m²)</th>
<th>Sub-classification</th>
<th>BMI (kg/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&lt; 18.50</td>
<td>Severe thinness</td>
<td>&lt; 16.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate thinness</td>
<td>16.00 - 16.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mild thinness</td>
<td>17.00 - 18.49</td>
</tr>
<tr>
<td>Normal range</td>
<td>18.5 - 24.99</td>
<td>Normal</td>
<td>18.5 - 24.99</td>
</tr>
<tr>
<td>Overweight</td>
<td>≥ 25.00</td>
<td>Pre-obese</td>
<td>25.00 - 29.99</td>
</tr>
</tbody>
</table>

Statistical Techniques:

Statistical analysis performed with SPSS software, version 19. Descriptive statistics are shown as means and standard deviations. Paired 't' test and ANCOVA was used to assess statistically significant differences variation in scores of anthropometric measurements and performances between six district U-19 & U-16 cricket players of Hyderabad Karnataka region.