**PREVALENCE OF OBESITY – VARIOUS STUDIES**

<table>
<thead>
<tr>
<th>STUDIES</th>
<th>% OBESITY</th>
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<tbody>
<tr>
<td>ANDREWS et al, 1995</td>
<td>27%</td>
</tr>
<tr>
<td>SOSA et al, 2000</td>
<td>45%</td>
</tr>
<tr>
<td>TAPIA et al, 2010</td>
<td>30%</td>
</tr>
</tbody>
</table>

**RISING TRENDS IN PEDIATRIC OBESITY**

<table>
<thead>
<tr>
<th>BOYS</th>
<th>GIRLS</th>
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<tr>
<td>9.1%</td>
<td>5.1%</td>
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</table>

- Need a structured program to monitor childhood obesity at community level.
- Incorporate anthropometric and biochemical markers to study impact of obesity on insulin resistance and cardiovascular risks.
- Need to be **INDIA SPECIFIC**.

**CURRENT ANTHROPOMETRIC MARKERS**

- **Height**
- **Weight**
- **BMI**
- **Waist circumference**
- **Waist height ratio**
- **Triceps skin fold thickness**
- **Fat percentage by bio-impedance technique**

**REQUIRED A MARKER THAT:**

- Measures central obesity
- Does not require age and gender matched charts.
- Is applicable to Indians.

**WAIST HEIGHT RATIO**

- More accurate tracking indicator of fat distribution and accumulation by age.
- Cut-off of ≥0.5 yet to be validated.

**OBJECTIVES**

1. To study the utility of WHR as a marker of insulin resistance.
2. Association of WHR and the 2 other commonly used markers – BMI and WC.
3. Association of WHR, lifestyle factors and biochemical markers.
4. Validate the presently used cutoff for WHR (≥0.5).

**MATERIALS AND METHODS**

- Cross-sectional
- School-based
- Epidemiological study
- Adolescents in the 11-17 year age group were included.

**LIMITATIONS**

1. Small sample size.
2. Cross sectional study.
3. Correlation of anthropometry and biochemical markers with puberty status was not ascertained.
4. Four site skinfold thickness was not obtained.

**CONCLUSION**

1. WHR is a good marker of insulin resistance and inflammation and correlates well with other anthropometric markers.
2. Lifestyle factors and biochemical markers also correlated well with WHR.
3. Children with normal BMI could still have central obesity indicated by a high WHR and could be at risk for future complications of obesity.
4. The present cutoff of ≥0.5 can also be applied to Indian children, but more research is required to determine the best cutoff for our Indian children.
5. WHR has the potential to become “the anthropometric marker” to define insulin resistance and cardio-vascular risk in future community studies.

**REFERENCES**


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