Journal of Clinical and Scientific Research		
Vol.2 Suppl 1	April-June 2013	ISSN(print) 2277-5706 ISSN(online) 2277-8357
3rd Annual Confe	rence of AP state Chapter of RSSDI	(AP RSSDI - 2013)
Editor's Message		vi
Scientific Programme		vii
Abstracts		
Waist height ratio as a me and overweight adolescen Nagesh V, Rakesh Kumar S Jiwani S, Habib S, Mohan I	easure of insulin resistance in obese ts , Neelaveni K, Vishnuvardhanrao M, H	S 1
Growth, pubertal develop children with type 1 diabe <i>Sunil E, Rajita D, Arun M,</i> <i>Rajagopal G, Satish P, Sure</i>	ment and skeletal maturation in e tes mellitus Sailaja P, Sreenivas Ch, Sangeetha S, sh V, Sachan A	82
Bone mineral density asse Sunil E, Rajita D, Arun M, Rajagopal G, Satish P, Sure	ssment in type 1 diabetes mellitus Sailaja P, Sreenivas CH, Sangeetha S, sh V, Sachan A	83
Prevalence of islet cell spe <i>Rajitha D, Sunil E, Sachan</i>	cific autoantibodies in type 1 diabetes m A, Suresh V, Bitla AR, Satishkumar P	nellitus S4
Prevalance of gestational <i>Raghuramulu P, Uma, Kavi</i>	<mark>diabetes in rural Andhra Pradesh</mark> itha, Laxmi Rajyam, Srinivas, Sandeep Ran	S5 nan P
A study on prevalence of a resistance in obese childre Prasad NR, Reddy PA, Karr Faizal AN, Radha Rani P, T	abnormal glucose tolerance and insulin en and adolescents thik TS, Chakravarthy PM, Rushikesh R	S6
Presidential oration Diabetes - osteoporosis		87

SudhakarRao N

Abstracts of the free paper session (AP RSSDI 2013)

Waist height ratio as a measure of insulin resistance in obese and overweight adolescents

V. Nagesh,¹ S. Rakesh Kumar,² K.Neelaveni,² M.Vishnuvardhanrao,³ Sania Jiwani,⁴ Sana Habib,⁴ Hari Mohan⁵

¹Department of Endocrinology CARE Hospital, Hyderabad and ²Departments of Endocrinology, ⁴MBBS Final year student, ⁵Intern at Osmania Medical College, Hyderabad and ³Department of Statistics, National Institute of Nutrition, Hyderabad

ABSTRACT

Background: Recent studies have shown that pediatric obesity is on the rise, especially in the developing countries, possibly due to a sea change in lifestyle. Attention is now being focused on Waist Height Ratio (WHtR) as an anthropometric marker suitable for large population. However, very few studies have been published about this marker and the presently used cutoff ≥ 0.5 is yet to be validated.

Objective and hypotheses: To study association of WHtR with lifestyle, other anthropometric & biochemical markers of insulin resistance & cardiovascular risk and validate the presently used cutoffs.

Methods: 96 children in the 11-16 yr age group were evaluated for lifestyle factors conducive for obesity, like frequent meat and snack consumption, greater screen time and eating meals while watching television, lesser physical activity and lesser access to parks and playgrounds. Body mass index (BMI), waist circumference (WC), WHtR, triceps skin fold thickness and fat percentage were measured. Fasting samples were drawn for fasting insulin, glucose, lipids, adiponectin, high sensitive C Reactive Protein (hs-CRP) were collected; & HOMA-IR calculated.

Results: WHtR showed significant association with lifestyle factors, anthropometric and biochemical markers, (p < 0.05), with the exception of adiponectin. 40 children out of the total 96 had a BMI< 85th centile, among whom, 8 children had raised WHtR and greater incidence of frequent snack consumption, family history of obesity and increased fat percentage (p < 0.05). When the entire study group was divided into tertiles, the tertile with WHtR - 0.49-0.53 had HOMA-IR and hs-CRP values similar to cut-offs determined in previous studies.

Conclusions: WHtR performed as well as BMI and WC in assessing obesity & insulin resistance. Children with normal BMI can still have increased central obesity & consequent metabolic risks. The presently used WHtR cutoff ≥ 0.5 for central obesity, correlates well with insulin resistance and future cardiovascular risk.

Nagesh V, Rakesh Kumar S, Neelaveni K, VishnuvardhanraoM, Jiwani S, Habib S, Mohan H. Waist height ratio as a measure of insulin resistance in obese and overweight adolescents. J ClinSci Res 2013;2(Suppl 1):S1.