

Puffy Layers Of Tummy Points Increased Cardiovascular Risk In Children

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Introduction: Increasing number of kids with puffy layers around their stomach (tummy) directed us to measure waist circumference (WC) as well as body mass index (BMI). In this study, we tried to analyse the metrics of cardiovascular risk factors presence in childhood and relation to the specifically BMI and WC in our local region.

Methods: The study included 152 children ranged 7-11 year. Physical examination included measurements of weight; height, BMI, WC, detailed family history; diet and physical activity were asked with questionnaires'. Variables for the study were total cholesterol (TC), triglycerides (TG), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), and systolic (SBP) and diastolic (DBP) blood pressure.

Results: We defined SBP < 95th percentile, BMI <85th percentile, WC < 85th percentile, TC < 170 mg/dl, LDL-C <100 mg/dl, HDL-C < 40 mg/dl as a cut-off point, to divide the sample into subgroups with high (risky) and normal values. 17.2% of the subjects were in risky group for SBP, 23.8% had high BMI, 7.3% had high WC, 21.1% high TC, 23.6% low HDL-C and 18.5% high LDL. WC significantly correlated with TG, BMI and inversely correlated with HDL-C blood levels. One% increase in WC decreases HDL-C concentration by 0.99%. One% increase in WC results in 5.35 % higher TG. We clustered four cardiovascular risk factors, hypertension SBP>95th percentile, high LDL-C, TC and low HDL-C together in a group. Subjects having at least three of these variables defined as risky cardiovascular group. Children with high BMI were 1.5 times more likely to have clustering cardiovascular risk factors [odds ratio 1.42 (95% CI 0.65–3.2), children with high WC were 2.5 times more likely to have clustering cardiovascular risk factors [odds ratio 2.62 (95% CI 0.81–5.87).

Conclusion: We found the highest percent of reported overweight for children in our region along with high systolic blood pressure. In addition, children with high WC have the highest TG levels. Cardiovascular risk factors could minimized with soft lifestyle changes like going to school on foot, having ideal type 1 diet, the factors that we showed to be protective from CVS risk