



(BMI), (C),
(H). BMI 8-10, C 11-13 H
14-16
17-20 BMI C H
I M A
21,22 I M
BMI, C H

pp 4

M H A L
(M HEA)
M
(M HEA I 2012) F 1 (13

E, (), M, E, A, 20. $p < 0.05$.

D p
1361 M HEA
H, 285
1071
1, 2
C, H ($p < 0.001$),
N, BMI, BMI, D.

40-43 , 44,45 ,
46,47 ,
48,49 50,51 .

B p

19 . I 5.6
2.9
A BMI,

abnormalities: comparison between patients with and without cardiovascular disease. *Am Heart J* 2008, 156(4):783-789.

7. Velasquez-Mieyer P, Perez-Faustinelli S, Cowan PA: Identifying Children at Risk for Obesity, Type 2 Diabetes, and Cardiovascular Disease. *Diabetes Spectr* 2005, 18(4):213-220.
8. Freedman DS, Khan LK, Dietz WH, Srinivasan SR, Berenson GS: Relationship of childhood obesity to coronary heart disease risk factors in adulthood: the Bogalusa Heart Study. *Pediatrics* 2001, 108(3):712-718.
9. Agirbasli M, Agaoglu NB, Ergonul O, Yagmur I, Aydogar H, Oneri T, Ozturk O: Comparison of anthropometric indices in predicting metabolic syndrome components in children. *Metab Syndr Relat Disord* 2011, 9(6):453-459.
10. Kim C, Kim B, Joo N, Park Y, Lim H, Ju Y, Yang S, Park S, Cho B, Park K: Determination of the BMI threshold that predicts cardiovascular risk and insulin resistance in late childhood. *Diabetes Res Clin Pract* 2010, 88(3):307-313.
11. Lee JM, Davis MM, Woolford SJ, Gurney JG: Waist circumference percentile thresholds for identifying adolescents with insulin resistance in clinical practice. *Pediatr Diabetes* 2009, 10(5):336-342.
12. Meng L, Luo N, Mi J: Impacts of types and degree of obesity on non-alcoholic fatty liver disease and related dyslipidemia in Chinese school-age children? *Biomed Environ Sci* 2011, 24(1):22-30.
13. Johnson ST, Kuk JL, Mackenzie KA, Huang TT, Rosychuk RJ, Ball GD: Metabolic risk varies according to waist circumference measurement site in overweight boys and girls. *J Pediatr* 2010, 156(2):247-252 e241.
14. Goulding A, Taylor RW, Grant AM, Parnell WR, Wilson NC, Williams SM: Waist-to-height ratios in relation to BMI z-scores in three ethnic groups from a representative sample of New Zealand children aged 5-14 years. *Int J Obes* 2010, 34(7):1188-1190.
15. Mokha JS, Srinivasan SR, Dasmahapatra P, Fernandez C, Chen W, Xu J, Berenson GS: Utility of waist-to-height ratio in assessing the status of central obesity and related cardiometabolic risk profile among normal weight and overweight/obese children: the Bogalusa Heart Study. *BMC Pediatr* 2010, 10:73.
16. Schwandt P, Bertsch T, Haas GM: Anthropometric screening for silent cardiovascular risk factors in adolescents: The PEP Family Heart Study. *Atherosclerosis* 2010, 211(2):667-671.
17. Lee SJ, Arslanian SA: Cardiorespiratory fitness and abdominal adiposity in youth. *Eur J Clin Nutr* 2007, 61(4):561-565.
18. Brunet M, Chaput JP, Tremblay A: The association between low physical fitness and high body mass index or waist circumference is increasing with age in children: the 'Quebec en Forme' Project. *Int J Obes* 2007, 31(4):637-643.
19. Ortega FB, Tresaco B, Ruiz JR, Moreno LA, Martin-Matillas M, Mesa JL, Warnberg J, Bueno M, Tercedor P, Gutierrez A, et al: Cardiorespiratory fitness and sedentary activities are associated with adiposity in adolescents. *Obesity* 2007, 15(6):1589-1599.
20. Hussey J, Bell C, Bennett K, O'Dwyer J, Gormley J: Relationship between the intensity of physical activity, inactivity, cardiorespiratory fitness and body composition in 7-10-year-old Dublin children. *Br J Sports Med* 2007, 41(5):311-316.
21. Dan SP, Mohd Nasir MT, Zailiah MS: Sex and ethnic differentials in physical activity levels of adolescents in kuantan. *Malays J Nutr* 2007, 13(2):109-120.
22. Hashim HA, Golok F, Ali R: Profiles of exercise motivation, physical activity, exercise habit, and academic performance in Malaysian adolescents: A cluster analysis. *Int J Collab Res Internal Med Public Health* 2011, 3(6):416-428.

47. Danforth JS, Allen KD, Fitterling JM, Danforth JA, Farrar D, Brown M, Drabman RS: Exercise as a treatment for hypertension in low-socioeconomic-status black children. *J Consult Clin Psychol* 1990, 58(2)

