Faktor Risiko Kardiovaskular pada Anak Usia 9-12 Tahun dan Faktor-Faktor yang Memengaruhi dengan Perhatian Khusus pada Berat Lahir = Cardiovascular Risk Factors in Children 9-12 Year Old and Influencing Factors With Specific Attention to Birth Weight

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Abstrak

Latar belakang. Faktor risiko PJK dapat terjadi sejak masa kanak-kanak dan dapat dicegah. Gangguan pertumbuhan intrauterin dapat meningkatkan kemungkinan timbulnya faktor risiko PJK. Penelitian sebelum11Ya menunjukkan hasil yang tidak konsisten. Hanya satu penelitian serupa yang pernah dilaporkan di Indonesia. Tujuan. Mengidentifik.asi faktor-faktor risiko kardiovaskular pada anak usia 9-12 tahun dan mengetahui faktor-faktor yang memengaruhinya, dengan perhatian khusus pada berat lahir. Metode. Studi potong lintang dilakukan pada anak usia 9-12 tahun di 4 sekolah dasar di Jakarta Pusat. Berat lahir didapatkan dari catatan kelahiran yang dimiliki orangtua. Pada subjek dilakukan pemeriksaan fisis dan antropometris, pengukuran massa lemak tubuh, dan pengambilan darah vena untuk pemeriksaan glukosa puasa, kolesterol total, HDL, LDL, dan trigliserida. Pada subjek dilakukan juga analisis diet dengan metode three-day food recall dan penilaian tingkat aktivitas fisis dengan Physical Activity Questionnaire for Children (PAQ-C). Orangtua diminta mengisi kuesioner mengenai riwayat pemberian ASI dan kondisi sosioekonomi. Proporsi obesitas, hipertensi, glukosa puasa terganggu, dan dislipidemia ditentukan. Koefisien korelasi antara berat lahir dengan indeks massa tubuh (IMT), tekanan darah sistolik, tekanan darah diastolik, massa lemak tubuh., glukosa puasa, kolesterol total, HDL, LDL, dan trigliserida ditentukan dengan uji Spearman. Korelasi yang bermakna diuji dengan analisis multivariat dengan mengikutsertakan faktor kovariat durasi pembcrian ASI, durasi ASI eksklusif, asupan nutrisi, tingkat aktivitas fisis, dan penghasilan keluarga. · Hasil. Didapatkan 85 subjek, 49 (57,6%) perempuan. Median (rentang) berat lahir subjek 3000 (1500-4300) g; 6 (7,1%) subjek memiliki berat lahir <2500 g. Proporsi obesitas, hipertensi sistolik, hipertensi diastolik, glukosa puasa terganggu, dan dislipidemia berturut-turut 10,6%; 2,4%; 4%; 2,4%; dan 31,8%. Terdapat korehsi lemah yang bermakna secara statistika antara berat lahir dengan z-swre IMT (p=0,265; p=O,Ol4) dan persentil massa lemak tubuh (p=0,216; p=0,047). Tidak. ditemukan korelasi yang bermakna secara statistika antara berat lahir dengan variabel-variabel lainnya. Fak.tor kovariat yang memenuhi syarat untuk analisis multivariat adalah durasi total pemberian ASI, durasi ASI eksklusif, persentase asupan protein terhadap AKG, dan penghasilan keluarga. Pada regresi linear multipel, berat lahir masih berpengaruh terhadap z-score IMT (P=O,OOl; p=0,008) dan persentil massa lemak. tubuh (p=0,017; p=0,043) pada usia 9-12 tahun. Sim.pulan. Terdapat korelasi positif lemah yang bermak.na secara statistika antara berat lahir dengan IMT dan massa lemak. tubuh. Pengaruh berat lahir terhadap IMT dan massa lemak. tubuh tetap bermak.na apabila faktor pemberian ASI, asupan nutrisi, dan penghasilan keluarga diperhitungkan. Diperlukan penelitian kohort prospektif dengan memperhitungkan usia gestasi untuk menentukan dengan lebih tepat pengaruh berat lahir rendah, khususnya perturnbuhanjanin terganggu, terhadap faktor risiko kardiovaskular.

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Background. Risk factors of CHD may develop since childhood and are preventable. Intrauterine growth

disturbance leads to programming of metabolic and endocrine systems, causing CHD risk factors to arise. Previous studies have shown inconsistent results. Only one such study has been reported in Indonesia Objectives. To identify cardiovascular risk factors in children 9-12 years old and their influencing factors, with specific attention to bi.rth weight. Methods. A cross-sectional study was done in 9-12-year-old children from 4 elementary schools in Central Jakarta. Birth weight was obtained from birth records submitted by parents. Physical examination, anthropometric measurement, determination of body fat percentage, and venous blood sampling were done to determine fasting blood glucose, total cholesterol, HDL, LDL, and triglycerides. Dietary analysis was done by a three-day food recall. Subjects' physical activity level was assessed using the Physical Activity Questionnaire for Children (P AQ-C). Parents completed a questionnaire regarding breastfeeding history and socioeconomic conditions. The proportions of obesity, hypertension, impaired fasting glucose, and dyslipidernia were calculated. The Spearman test was done to determine the correlation between birth weight and body mass index (BMI), systolic and diastolic blood pressure, body fat percentage, fasting blood glucose, total cholesterol, HDL, LDL, and triglycerides. Significant correlations were subjected to multivariate analysis incorporating total breastfeeding duration, exclusive breastfeeding duration, nutritional intake, physical activity level, and family income. Results. We obtained 85 subjects, 49 (57,6%) of which were female. Median (range) birth weight was 3000 (1500-4300) g; 6 (7,1%) had birth weight of <2500 g. The proportion of obesity, systolic hypertension, diastolic hypertension, impaired fasting glucose, and dyslipidemia was 10,6%; 2,4%; 4%; 2,4%; and 31,8%, respectively. A weak positive correlation was obtained between birth weight and BMI z-score (p=0,265; p=0,014); and between birth weight and body fat percentile (p=0,216; p=0,047). There was no statistically significant correlation between birth .veight and other variables. Covariates fulfilling significance criteria were total breastfeeding duration, exclusive breastfeeding duration, percentage protein intake to the local RDA, and family income. On multiple linear regression analysis, birth weight was still significantly related to BMI z-score (~=0,001; p=0,008) and body fat percentile (~=0,017; p=0,043) at 9-12 years of age when the covariates were considered. Conclusions. Birth weight is weakly and positively correlated with BMI and body fat percentage. The influence of birth weight on BMI and body fat percentage remains significant when breastfeeding history, nutritional intake, and family income are considered. A prospective cohort study incorporating gestational age is needed to determine the influence of low birth weight, particularly due to intrauterine growth disturbance, on cardiovascular risk factors.