

ABSTRACT

Background: *Type 1 (asthma bronchiale and allergic rhinitis) hypersensitive incident is increasing with also increasing numbers of caesarean section recently. Birth Cohort studies on many developed countries have shown a significant correlation between caesarean section with asthma bronchiale and allergic rhinitis. This study is required to understand the correlation between section caesarean and type 1 hypersensitivity (asthma bronchiale and allergic rhinitis) among primary and secondary school students in Yogyakarta city.*

Methods: *A case control study that included 3211 children, male and female primary and secondary school students on Muhammadiyah School of Yogyakarta, at age 7-15 years. We obtained 334 case (on children diagnosed asthma bronchiale and allergic rhinitis) and 2877 data control (on children without any history of asthma bronchiale and allergic rhinitis). A numbers of 58 data on case group and 871 data on control group have been excluded. Demographic data, for example exclusive ASI, perinatal antibiotic, allergy history on both parents, and birth method were obtained from questionnaire papers, filled by the parents.*

Results: *Ratio of male student and female student in this research is 1:1,2. 305 children (13,4%) were born via cesarean and the other 1977 children (86.6%) were born via pervaginam. Caesarean section incident are significantly related with type 1 hypersensitivity (asthma bronchiale and allergic rhinitis) incident on male and female student on primary and secondary school of Muhammdaiyah in Yogyakarta city (OR = 1,56 [95% CI 1,12-2,17], p = 0,008). There are no significant correlation between caesarean section incident with type 1 hypersensitivity (asthma bronchiale and allergic rhinitis) on male and female student on primary and secondary school of Muhammadiyah in Yogyakarta city (OR = 0,85 [95% CI 0,48-1,51], p = 0,58), if the type 1 hypersensitivity (asthma bronchiale and allergic rhinitis) history on both parents are treated as excluded criteria.*

Conclusions: *There was significant correlation between section cesarean incident with type 1 hypersensitivity incident on male and female student on primary and secondary school of Muhammadiyah in Yogyakarta city, provided that one or both parents of the student have a type 1 hypersensitivity history (asthma bronchiale and allergic rhinitis).*

Key Words: *Type 1 hypereensitivity, Caesarean section, Yogyakarta*

INTISARI

Latar belakang: Kejadian hipersensitivitas tipe 1 (asma bronkial dan rhinitis alergika) meningkat bersamaan dengan meningkatnya angka kejadian *sectio cesarea* baru-baru ini. *Birth cohort studies* di beberapa negara maju telah menunjukkan hubungan signifikan antara kejadian *sectio cesarea* dengan terjadinya asma bronkial dan rhinitis alergika. Penelitian ini ditujukan untuk mengetahui hubungan antara kejadian *sectio cesarea* dengan terjadinya hipersensitivitas tipe 1 (asma bronkial dan rhinitis alergika) pada anak usia SD dan SMP di kota Yogyakarta.

Metode: Penelitian *case-control* yang melibatkan 3211 anak, siswa dan siswi SD dan SMP Muhammadiyah Yogyakarta usia 7-15 tahun. Didapatkan 334 data kasus (anak terdiagnosis asma bronkial dan rhinitis alergika) dan 2877 data kontrol (anak tanpa riwayat asma bronkial dan rhinitis alergika). Sebanyak 58 data pada kelompok kasus dan 871 data pada kelompok kontrol telah dieksklusi. Data demografi, seperti asi eksklusif, antibiotik perinatal, riwayat alergi kedua orang tua dan metode lahir diperoleh melalui lembar kuisioner yang diisi oleh orang tua.

Hasil: Rasio siswa dan siswi pada penelitian ini adalah 1:1,2. Tiga ratus lima anak (13,4%) lahir via cesar dan 1977 anak lainnya (86,6%) lahir pervaginam. Kejadian *sectio cesarean* berhubungan signifikan dengan terjadinya hipersensitivitas tipe 1 (asma bronkial dan rhinitis alergika) pada siswa dan siswi SD & SMP Muhammadiyah di kota Yogyakarta (OR = 1,56 [95% CI 1,12-2,17], $p = 0,008$). Tidak terdapat hubungan yang signifikan antara kejadian *sectio cesarea* dengan terjadinya hipersensitivitas tipe 1 pada siswa dan siswi SD & SMP Muhammadiyah di kota Yogyakarta (OR = 0,85 [95% CI 0,48-1,51], $p = 0,58$), apabila riwayat hipersensitivitas tipe 1 (asma bronkial dan rhinitis alergika) pada kedua orang tua ditetapkan sebagai kriteria eksklusi.

Kesimpulan: Terdapat hubungan yang signifikan antara kejadian *sectio cesarea* dengan terjadinya hipersensitivitas tipe 1 pada siswa dan siswi SD & SMP Muhammadiyah di kota Yogyakarta yang pada salah satu atau kedua orang tuanya mempunyai riwayat hipersensitivitas tipe 1 (asma bronkial dan rhinitis alergika).

Key Words: *Hipersensitivitas tipe 1, Sectio cesarea, Yogyakarta*