Rasio albumin globulin dan ekspresi komplemen C3: hubungannya pada populasi kumuh dan nonkumuh = Albumin globulin ratio and complement C3 expression: the correlation in slum and nonslum population

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Abstrak

ABSTRACT
Pendahuluan: Penduduk pemukiman kumuh dan nonkumuh memiliki pola pajanan pathogen yang berbeda sehingga diduga menyebabkan perbedaan profil imun. Rasio albumin globulin dan komplemen C3, fraksi β-globulin yang berfungsi sebagai pusatkonvergensi sistem komplemen yang merupakan sistem imun bawaan, diduga memiliki profil yang berbeda berdasarkan tipe pemukiman dan pola pajanannya. Metode: Studi potong lintang ini melibatkan masing-masing 20 orang dari penduduk sekitar TPU Bantar Gebang yang mewakili populasi kumuh dan civitas Fakultas Kedokteran Universitas Yarsi, Jakarta yang mewakili populasi nonkumuh. Nilai rasio albumin globulin diukur dengan cara membandingkan nilai albumin dengan selisih antara
protein total dengan albumin. Komplemen C3 diukur menggunakan metode radial immunodiffusion. Hasil: Populasi kumuh memiliki nilai rasio albumin globulin lebih rendah signifikan dibanding populasi nonkumuh (p =0,004). 65% populasi kumuh memiliki ekspresi komplemen C3 tinggi (>1275,0) sedangkan 70% populasi nonkumuh memiliki ekspresi komplemen C3 rendah (≤1275,0) (p = 0,027). Rasio albumin globulin dan komplemen C3 memiliki tren korelasi negatif (R= −0,251, p = 0,062). Lima puluh persen populasi kumuh memiliki rasio albumin globulin rendah (≤1,38) dan ekspresi komplemen C3 tinggi (>1275,0) (p = 0,018). Kesimpulan: Terdapat perbedaan rerata rasio albumin globulin dan perbedaan proporsi ekspresi komplemen C3 yang signifikan pada populasi kumuh dan nonkumuh. Terdapat tren hubungan terbalik antara rasio albumin globulin dan ekspresi komplemen C3. Proporsi rasio albumin globulin rendah dan ekspresi komplemen C3 tinggi lebih banyak
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ABSTRACT
Introduction: Slum and non-slum dwellers have different pathogenic exposure patterns that are thought to cause differences in immune profile. The ratio of albumin globulin and C3 complement, the β-globulin fraction that functions as a center convergence of the complement system which is the innate immune system, is thought to have a different profile based on the type of settlement and its exposure patterns. Method - This cross-sectional study involved 20 people from each population around the Bantar Gebang TPU which represents the slum population and the Yarsi University Faculty of Medicine community, Jakarta representing the non-slum population. The value of albumin globulin ratio is measured by comparing the value of albumin with the difference between total protein with albumin. C3 supplements are measured using the radial immunodiffusion method. Results: Slum populations have significantly lower albumin globulin ratios compared to non-slum populations (p = 0.004). 65% of the slum population has high C3 complement expression (> 1275.0) while 70% of the non-slum population has low C3 complement

expression (≤1275.0) (p = 0.027). The ratio of albumin globulin and complement C3 has a negative correlation trend (R = −0.251, p = 0.062). Fifty percent of the slum population had a low albumin globulin ratio (≤1.38) and high C3 complement expression (> 1275.0) (p = 0.018). Conclusion- There is a significant difference in the ratio of albumin globulin and a significant difference in the proportion of C3 complement expression in slum and non-slum populations. There is a trend of an inverse relationship between albumin globulin ratio and C3 complement expression. The proportion of albumin globulin ratio is low and the expression of high C3 complement is higher