

ABSTRAK

Hubungan Disregulasi Imunitas (Th1, Th2, Treg, Th17) dan Status Kesehatan Komunitas dengan Kejadian Kusta pada Anak dan Ibu di Daerah Endemis Kusta Tuban

Latar belakang: Jumlah kasus baru yang relatif stabil di daerah endemis diduga disebabkan oleh kegagalan pemutusan rantai transmisi *M. leprae*. Status imunitas dipengaruhi oleh status kesehatan komunitas dan disregulasi imunitas berpengaruh pada kejadian transmisi *M. leprae*. Penelitian bertujuan mengetahui hubungan disregulasi imunitas dengan kusta pada ibu, kusta pada anak, nonkusta serta hubungan status kesehatan komunitas dengan endemisitas kusta, kusta pada ibu, kusta pada anak, nonkusta, status imunitas ibu dan anak di daerah endemis kusta.

Metode: Studi eksplorasi berdesain potong lintang, bersubjek penelitian 106 ibu-anak, dibagi 5 kelompok, dibandingkan, dianalisis hubungan ibu-anak. Dilakukan pemeriksaan darah&sitokin (41 ibu-anak). Analisis statistik menggunakan uji Anova, uji asosiasi Phi, uji asosiasi Cramer's V, uji asosiasi Eta, uji korelasi Spearman, uji korelasi Pearson. Hasil analisis $p < 0,05$ dianggap signifikan

Hasil: Ditemukan di daerah endemis kusta: Treg ibu sehat > ibu kusta, Th17 anak sehat > anak kusta, ada korelasi terbalik antara Th17 anak dan Treg ibu, Treg ibu sehat beranak kusta berbanding terbalik dengan Th17 anak sehat beribu kusta, Treg ibu kusta beranak sehat berbanding terbalik dengan Th17 anak kusta beribu sehat, ada perbedaan rasio Th1/Th2 dan Th17/Treg antar kelompok ibu kusta dan ibu sehat.

Didapatkan hubungan signifikan sarana pembuangan sampah, pendapatan keluarga, pendidikan ayah, status gizi anak > 5 tahun, RBC > 13 tahun dengan endemisitas; sarana pembuangan sampah, lantai rumah, pendapatan keluarga, pendidikan ayah, pendidikan ibu, HCT, RBC dengan ibu kusta; langit-langit rumah, kelembaban, lantai rumah, pendapatan keluarga, pendidikan ayah, pendidikan ibu, pekerjaan ibu, BCG, status gizi anak > 5 tahun, Hb, PLT, Zn (8-12 tahun) dengan anak kusta; pendapatan keluarga dengan ibu nonkusta; pendapatan keluarga dengan anak nonkusta; kelembaban dengan status imunitas ibu; sarana pembuangan sampah, SPAL, intensitas pencahayaan obyektif, pekerjaan ayah, HCT, albumin (8-12 tahun) dengan status imunitas anak.

Kesimpulan: Didapatkan hubungan antara disregulasi imunitas Treg-Th17 dengan kusta pada ibu-anak dan hubungan antara status kesehatan komunitas dengan endemisitas, kusta pada ibu, kusta pada anak, nonkusta, status imunitas ibu dan anak.

Kata kunci: Kusta, disregulasi imunitas, Th1-Th2-Treg-Th17

ABSTRACT

Immune Dysregulation (Th1, Th2, Treg, Th17) and Community Health Status with Incidence of Leprosy in Children and Mother in Leprosy Endemic Area Tuban

Background: The relatively stable number of new cases in endemic areas is thought to be caused by failure to break the transmission chain of *M. leprae*. Immunity status is influenced by community health status and immune dysregulation affects the incidence of *M. leprae* transmission. This study aims to know the relationship between immune dysregulation and leprosy mothers, leprosy children, healthy subjects and the relationship between community health status and endemicity of leprosy, leprosy mothers, leprosy children, healthy subjects, immunity status of mothers and children in endemic area of leprosy.

Methods: Cross-sectional exploratory study, with 106 mother-child subjects, divided into 5 groups, were compared, and analyzed the relationship between mother-child. Blood test & cytokine analysis were performed (41 mothers-children). The statistical analysis used the ANOVA test, Phi association test, Cramer's V association test, Eta association test, Spearman correlation test, Pearson correlation test. Result with $p < 0.05$ was considered significant.

Results: It was found that in endemic area of leprosy: Treg healthy mothers > leprosy mothers, Th17 healthy children > leprosy children, there was an inverse correlation between Th17 in children & Treg in mothers, Treg of healthy mothers whose children have leprosy were inversely related to Th17 of healthy children whose mothers have leprosy, Treg of leprosy mothers whose children are healthy were inversely related to Th17 in leprosy children whose mothers are healthy, there were differences in the ratio of Th1/Th2 & Th17/Treg between groups of leprosy mothers & healthy mothers.

There was a significant relationship between garbage disposal facilities, family income, father's education, nutritional status of >5 year olds, RBC of >13 year olds with endemicity; garbage disposal facilities, house floors, family income, father's education, mother's education, HCT, RBC with leprosy mothers; house ceiling, humidity, house floor, family income, father's education, mother's education, mother's occupation, BCG, nutritional status of >5 year olds, Hb, PLT, Zn of (8-12) year olds with leprosy children; family income with healthy mothers; family income with healthy children, humidity with mother's immunity status; garbage disposal facilities, waste water disposal facility, objective lighting intensity, father's job, HCT, albumin of (8-12) year olds with children's immunity status.

Conclusion: There was a relationship between Treg-Th17 immune dysregulation and mother-child leprosy and there was a relationship between community health status and endemicity of leprosy, leprosy children, leprosy mothers, healthy subjects, immunity status of mother and children.

Key words: Leprosy, immune dysregulation, Th1-Th2-Treg-Th17