

# **Hubungan Jumlah CD4, Infeksi HPV, dan Faktor Risiko dengan Lesi Prakanker Serviks pada Pasien HIV = Association of CD4 count, HPV infection, and Risk Factors with Cervical Precancerous Lesions in HIV Patients**

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## Abstrak

Pendahuluan: Penelitian ini bertujuan untuk mengetahui hubungan antara jumlah CD4, infeksi HPV, faktor risiko, dan terjadinya lesi prakanker pada pasien terinfeksi HIV.

Metode: Studi potong-lintang ini dilakukan di Rumah Sakit Umum Dr. Cipto Mangunkusumo, Indonesia. 80 subjek penelitian dikumpulkan dari bulan Juli-Oktober 2021. Data subjek penelitian dikumpulkan menggunakan kuesioner terstruktur, meliputi usia, pendidikan, paritas, inisiasi seksual dini, jumlah pasangan seksual, riwayat merokok, riwayat kontrasepsi oral, riwayat penyakit menular seksual, dan jumlah CD4 terendah. Pemeriksaan sitologi, kolposkopi, dan tes HPV-DNA dilakukan pada seluruh subjek penelitian, dan 11 subjek melakukan pemeriksaan lanjutan histopatologi karena ditemukan abnormalitas pada pemeriksaan awal. Penginputan dan analisis data dilakukan dengan menggunakan IBM SPSS versi 25. Analisis bivariat, perhitungan odd ratio dan p value dilakukan untuk mengidentifikasi jumlah CD4, HPV-DNA, dan faktor risiko yang terkait dengan lesi prakanker serviks.

Hasil: Dari data penelitian didapatkan bahwa 81,2% memiliki jumlah CD4 yang baik, dengan rata-rata jumlah CD4 sebesar 437,05 sel/mm<sup>3</sup>. Sebagian besar subjek memiliki HPV-negatif; namun, terdapat 22,2% subjek yang diketahui HPV-positif, memiliki lesi prakanker. Penelitian kami juga menemukan bahwa jumlah CD4 ( $p=0,01$ , OR 7,625; CI 95% 1,744-33,331) dan HPV-DNA ( $p<0,01$ , OR 12,286; CI 95% 1,456–103,65) secara signifikan berhubungan dengan lesi prakanker serviks. Kami juga menemukan korelasi antara inisiasi seksual dini dan hasil sitologi ( $p=0,05$ , OR 6,4; CI 95% 1,1306–36,2292).

Kesimpulan: Jumlah CD4 yang rendah dan HPV-DNA positif berhubungan dengan perkembangan lesi prakanker. Pasien terinfeksi HIV dengan jumlah CD4 rendah juga dikaitkan dengan hasil HPV-DNA positif. Inisiasi seksual dini, sebagai faktor risiko kanker serviks, diketahui meningkatkan hasil skrining yang tidak normal. Oleh karena itu, metode skrining co-testing direkomendasikan sebagai strategi untuk mencegah kanker serviks pada semua pasien terinfeksi HIV.

.....Introduction: This study aimed to determine the association between CD4 count, human papillomavirus (HPV) infection, risk factors, and the occurrence of precancerous lesions among HIV-infected patients.

Methods: This cross-sectional study was conducted at the Dr. Cipto Mangunkusumo General Hospital, Indonesia. All samples were collected between July and October 2021, and 80 HIV-infected subjects were included in the study. All participant data were collected using a structured questionnaire, including age, education, parity, early sexual initiation, number of sexual partners, history of smoking, history of oral contraception, history of sexually transmitted diseases, and the lowest CD4 count. Cytological examination, Colposcopy, and HPV DNA tests were performed on all participants, and 11 subjects underwent biopsy due to abnormalities. Data entry and analysis were performed using IBM SPSS 25th version. Bivariate analysis was performed, and odds ratios and p-values were computed to identify the CD4 count, HPV DNA, and risk factors associated with histopathology results.

**Results:** Among the participants, 81.2% had a good CD4 count, with a mean CD4 count of 437.05 cells/mm<sup>3</sup>. Most of the subjects were HPV-negative; however, 22.2% of HPV-positive subjects had precancerous lesions based on histopathologic results. Our study found that CD4 count was correlated with precancerous lesions ( $p=0.01$ , OR 7.625; CI 95% 1.744–33.331) and HPV DNA was significantly associated with cervical precancerous lesions ( $p<0.01$ , OR 12.286; CI 95% 1.456–103.65). Another finding was the correlation between early sexual initiation and cytology results ( $p = 0.05$ , OR 6.4; CI 95% 1.1306–36.2292). **Conclusion:** Low CD4 counts and HPV DNA positivity are associated with the development of precancerous lesions. HIV-infected patients with low CD4 counts were also associated with positive HPV DNA results. Early sexual initiation, as a risk factor for cervical cancer, was found to increase abnormal screening results. Therefore, co-testing screening methods are recommended as a strategy to prevent cervical cancer in all HIV-infected patients.