

## INTISARI

**Latar Belakang:** Indonesia merupakan negara dengan kasus kanker serviks terbanyak di Asia Tenggara. Kanker serviks telah menjadi kanker terbanyak kedua sebanyak 36.633 kasus pada perempuan setelah kanker payudara dan menempati posisi ketiga penyebab kematian akibat kanker (Sung, H. et al., 2021). Protein Bcl-2 mendukung pertumbuhan neoplastik dengan mencegah kematian sel bersifat anti apoptosis. Overekspresi protein Bcl-2 menyebabkan ekspansi dan perbanyakan jaringan sel yang rusak dapat memengaruhi derajat diferensiasi dan jenis histopatologi sel pada kanker (Kamaraddi *et al*, 2016).

**Tujuan:** Penelitian ini bertujuan untuk menilai adanya hubungan positif antara ekspresi protein BCL 2 dengan derajat diferensiasi dan jenis histopatologi kanker serviks di RSUP Dr. Sardjito Yogyakarta

**Metode:** Penelitian ini merupakan penelitian *cross-sectional*, menilai ekspresi Bcl-2 secara imunohistokimia pada pasien dengan kanker serviks di RSUP Dr. Sardjito Yogyakarta. Pengambilan sampel dilakukan dengan *consecutive sampling*. Data dianalisis dengan menggunakan analisis bivariat uji *Fisher's Exact* dan *Continuity Correction*. Analisis multivariat dilakukan dengan metode Regresi Logistik.

**Hasil:** Subjek penelitian yang memenuhi kriteria keseluruhan berjumlah 92 subjek yang dibagi menjadi dua kelompok, yaitu 46 subjek kelompok stadium awal (stadium I sd IIA) dan 46 subjek kelompok stadium lanjut (stadium IIB sd IVB). Ekspresi Bcl-2 positif secara statistik tidak memiliki berhubungan yang bermakna dengan derajat diferensiasi ( $p=0.904$ ; OR 0,867; CI 95% 0.375-2.004) dan jenis histopatologi ( $p=0,647$ ; OR 1,364; CI 95% 0.559-3.33). Hasil analisis multivariat stadium kanker bermakna memengaruhi hasil Bcl-2 positif. ( $p=0,001$ ; OR 4.68; CI 95% 1,881-11.643). Stadium lanjut memiliki risiko untuk menjadi BCL-2 positif 4,68 kali di banding stadium awal ( $p < 0,05$ ).

**Kesimpulan:** Ekspresi Bcl-2 positif secara statistik tidak memiliki hubungan yang bermakna dengan derajat diferensiasi dan jenis histopatologi. Kanker serviks stadium lanjut memengaruhi hasil ekspresi Bcl-2 positif dibandingkan pada stadium awal.

**Kata kunci:** protein Bcl-2, derajat diferensiasi, jenis histopatologi, kanker serviks.

## ABSTRACT

**Background:** Indonesia is a country with the highest cervical cancer cases in Southeast Asia. Cervical cancer ranks as the second most prevalent cancer with 36,633 cases among women, following breast cancer, and holds the third position in cancer-related deaths (Sung, H. *et al*, 2021). The Bcl-2 protein has anti-apoptotic characteristic, which supports neoplastic growth by preventing cell death. Overexpression of the Bcl-2 protein leads to the expansion and proliferation of damaged cell tissues, affecting the degree of differentiation and histopathological cell types in cancer (Kamaraddi *et al*, 2016).

**Objective:** This study aims to assess the positive relationship between the expression of Bcl-2 protein to the degree of differentiation and histopathological types of cervical cancer in Dr. Sardjito Hospital in Yogyakarta.

**Methods:** This study is a cross-sectional study evaluating the expression of Bcl-2 proteins by immunohistochemistry in patients with cervical cancer. The sampling method used in this study was consecutive sampling. The data was analyzed using bivariate analysis by Fisher's exact test and Continuity Correction, along with multivariate analysis using the Logistic Regression method.

**Results:** In this study, 92 subjects fulfilled the overall study criteria which was divided into two groups: early stage (stage I-IIA) consisting of 46 subjects and late stage (stage IIB to IVB) also consisting of 46 subjects. The result of this study shows that the expression of Bcl-2 proteins is positive statistically, however this study does not show a statistically significant result with the degree of differentiation ( $p=0.904$ ; OR 0,867; CI 95% 0.375-2.004) and types of histopathology ( $p=0,647$ ; OR 1,364; CI 95% 0.559-3.33). The multivariate analysis result indicates that cancer stage significantly influences a positive Bcl-2 result ( $p=0,001$ ; OR 4.68; CI 95% 1,881-11.643). Late-stage cancer has a 4.68 times higher risk of being Bcl-2 positive than early-stage cancer ( $p < 0,05$ ).

**Conclusion:** The relationship between Bcl-2 expression with the degree of differentiation and histopathological types of cervical cancer was not significant. Furthermore, Bcl-2 expression was more frequently detected in early than late stage cervical cancer and among women with high parity.

**Keywords:** Bcl-2 protein, degree of differentiation, histopathology types, cervical cancer.