

# Pengaruh Jenis Kelamin, Usia, dan Data Antropometri terhadap Landmark Blok Popliteal pada Ras Melayu di Indonesia : Penelitian Observasional dengan panduan Ultrasonografi = Influence of Gender, Age, And Anthropometric Data on Popliteal Block Landmark on Malay Race in Indonesia : An Observational Research with Ultrasound Guidance

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## Abstrak

Latar belakang : Teknik blok popliteal menggunakan stimulator saraf masih menjadi pilihan di Indonesia. Keberhasilan blok meningkat jika pengetahuan dan pemahaman landmark anatomi baik. Landmark anatomi berupa jarak titik pereabangan saraf skiatik terhadap lipatan fossa popliteal dan kedalaman titik tersebut dari kulit. Perbedaan landmark anatomi dapat terjadi karena perbedaan ras akibat perbedaan ukuran tulang panjang dan massa otot. Penelitian ini bertujuan mengetahui pengaruh jenis kelamin, usia, dan data antropometri terhadap landmark blok popliteal pada ras Melayu di Indonesia dengan menggunakan panduan ultrasonografi. Metode : Penelitian bersifat analitik observasional dengan raneangan potong lintang. Penelitian dilaksanakan di RSUPN Cipto Mangunkusumo Jakarta pada bulan Januari-April 2017 setelah mendapatkan izin dari komite etik. Usaha meneari gambaran pereabangan saraf skiatik pada tungkai kanan dan kiri menggunakan ultrasonografi dua dimensi dilakukan pada 107 pasien yang akan menjalani operasi bedah tereneana di Instalasi Bedah Terpadu. Data yang diperoleh dianalisis melalui SPSS untuk mengetahui hubungan dan pengaruh antara jenis kelamin, usia tinggi badan, berat badan dan IMT terhadap landmark blok popliteal serta memperoleh formula prediksi landmark blok popliteal pada ras Melayu di Indonesia. Hasil : Pada penelitian ini diperoleh hubungan bermakna jenis kelamin, tinggi badan terhadap jarak pereabangan saraf skiatik ke lipatan fossa popliteal dan hubungan bermakna berat badan, IMT terhadap jarak pereabangan saraf skiatik pada permukaan kulit dengan nilai  $p < 0.005$ . Tinggi badan dorninan berpengaruh terhadap jarak pereabangan saraf skiatik dari lipatan fossa popliteal (adjusted R<sup>2</sup> 38.8% dan 32.4%) sedangkan berat badan dominan terhadap jarak pereabangan saraf skiatik ke permukaan kulit (adjusted R<sup>2</sup> 22.5% dan 24.7%). Formula prediksi jarak pereabangan skiatik dari lipatan fossa popliteal (em) pada tungkai kanan - 12.548 + 0.133 x (Tb dalam em) dan tungkai kiri -6.549 + 0.091 x (Tb dalam em) + 0.63 x Jenis Kelamin. Formula prediksi jarak pereabangan skiatik ke kulit pada tungkai kanan 0.277 + 0.288 x (BB dalam kg) dan tungkai kiri 0.319 + 0.028 x (BB dalam kg) Simpulan: Terdapat pengaruh jenis kelarnin dan data antropometrik terhadap landmark blok popliteal pada ras Melayu di Indonesia.

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Background : Popliteal nerve block with nerve stimulator remains as peripheral nerve block of choice in Indonesia. The successfulness of such block increases with better knowledge of anatomical landmark is the distance between the point of sciatic nerve to the popliteal fossa crease. The anatomical landmark might differ between races due to different bone length and muclle mass. This study aimed to observe the influence between races, age, and anthropometric data to the landmark of popliteal nerve block among Malay race in Indonesia by using ultrasonography guidance. Methods : This was an observational analytic study with cross-sectional design. This study was held ini Cipto Mangunkusumo Hospital from January-April 2017

following approval from ethical committee. An attempt to find the sciatic nerve branch on the left and right limb by using ultrasonography was done in 107 patients undergoing surgery. Data was analysed by using SPSS to observe the relationship between age, sex, body weight and height, and BMI to such landmark

Result : This study generated that sex and body height had strong association with the distance of sciatic nerve branch to the popliteal fossa crease. Strong association was also observed between body weight and BMI to such distance. Body height was associated with the distance of sciatic nerve branch to the popliteal fossa crease (adjusted R<sup>2</sup> 38.8% dan 32.4%) while body weight was associated with the distance of sciatic nerve branch to skin surface (adjusted R<sup>2</sup> 22.5% dan 24.7%). The formula obtained to predict the distance of sciatic nerve branch to the popliteal fossa crease (cm) in right limb was  $-12.548 + 0.133 \times (\text{body height in cm})$  and in left limb was  $-6.549 + 0.091 \times (\text{body height in cm}) + 0.63 \times \text{age}$ . The formula obtained to predict the distance of sciatic nerve branch to the skin surface (cm) in the right limb was  $0.277 + 0.288 \times (\text{body weight in kg})$  and in left limb was  $0.319 + 0.028 \times (\text{body weight in kg})$

Conclusion: Sex and anthropometric data were associated with the anatomical landmark of popliteal nerve block among Malay race in Indonesia.