

## Budi Iman Santoso Assessment (BISA): a model for predicting levator ani injury after vaginal delivery

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### Abstrak

Latar belakang: Belum ada usaha maupun penelitian yang mampu memadukan berbagai faktor risiko untuk memprediksi terjadinya kerusakan otot levator ani akibat persalinan pervaginam. Penelitian ini bertujuan untuk mengetahui indeks yang dapat digunakan untuk memprediksikan kerusakan levator ani pada persalinan pervaginam.

Metode: Penelitian kohort prospektif di dua rumah sakit di Jakarta tahun 2010-2011. Kriteria subjek adalah wanita hamil nulipara tanpa kerusakan levator ani saat hamil dan melahirkan pervaginam. Kerusakan levator ani diukur dengan USG 4 dimensi saat hamil dan tiga bulan pasca melahirkan. Variabel yang diteliti adalah usia, indeks masa tubuh, cara persalinan pervaginam, berat badan bayi lahir, episiotomi, robekan perineum, dan lamanya kala 2. Model prediksi dianalisis dengan analisis regresi logistik.

Hasil: Sebanyak 182 subjek direkrut dengan 124 subjek memenuhi kriteria dan 104 subjek dapat dianalisis. Insiden kerusakan levator ani pada tiga bulan adalah sebesar 15,4% (IK 95%: 8,6-23%). Diperoleh dua model prediksi. Model prediksi pertama terdiri dari berat bayi (OR= 5,36 IK 95%: 1,08-26,59), episiotomi (OR= 5,41 IK 95%: 0,94-31,18), dan lama kala dua (OR= 15,27 IK 95%: 3,15-73,96). Model prediksi kedua terdiri dari lama kala dua (OR= 9,51 IK 95%: 1,23-68,10) dan robekan perineum (OR= 142,70 IK 95%: 14,13-1440,78).

Kesimpulan: Variabel yang dapat memprediksikan kerusakan levator ani adalah berat bayi, episiotomi, dan kala dua pada model 1 dan lama kala dua serta robekan perineum pada model 2.

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<b>Abstract</b><br>

Background: There have been no attempts or studies to integrate various risk factors that can be utilized to predict levator ani injury caused by vaginal delivery. This study was aimed to establish an index measurement system by using various risk factors for predicting levator ani injury in vaginal delivery.

Methods: A prospective cohort was conducted at two hospitals in Jakarta between 2010 and 2011. The subjects were nulipara pregnant women without levator ani injury during pregnancy and vaginal birth.

Levator ani injury was evaluated using 4D USG during pregnancy and three months after delivery. The variables studied were age, body mass index, mode of delivery, fetal birth weight, episiotomy, perineum rupture and duration of second stage labor. Prediction model was analyzed using logistic regression analysis.

Results: There were 182 recruited subjects of which 124 subjects were eligible and only 104 subjects could be analyzed. Incidence of levator ani injury at three months after delivery was 15.4% (95% CI: 8.6-23%).

Two prediction models were obtained. The first consisted of fetal birth weight (OR= 5.36, 95% CI: 1.08-26.59), episiotomy (OR= 5.41, 95% CI: 0.94-31.18), and duration of second stage labor (OR= 15.27, 95% CI: 3.15-73.96). The second model consisted of duration of second stage labor (OR= 9.51, 95% CI: 1.23-68.10) and perineum rupture (OR= 142.70, 95% CI: 14.13-1440.78).

Conclusion: Fetal birth weight, episiotomy and duration of second stage labor could predict levator ani

injury for model 1; while the variables of prediction for model 2 were duration of second stage labor and perineum rupture.