

## ABSTRACT

### Measurement of oxygen saturation using a penis with Finger Tip Pulse oximeter in patients with erectile dysfunction

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**OBJECTIVE:** To know whether measurements of oxygen saturation men using Finger Tip Pulse oximetry (Roscoe) can determine the condition of penile vascularization objectively on organic ED.

**METHODS:** The design of research using cross sectional study, performed on patients who came for consultation at the clinic Andrology of Dr. Soetomo Hospital, Surabaya in the period March until September 2010. Researchers conducted to evaluate the age, and a history of ED, then followed by measuring oxygen saturation using pulse oximetry Finger Tip (Roscoe), on the penis of ED patients with various conditions of his ED.

**RESULTS:** The result, a total of patients with erectile dysfunction for 6 months at the clinic Andrology of Dr. Soetomo Hospital from March to September as many as 92 patients. The patient's age between 17-70 years, of examination in ED patients with IIEF scores obtained 22-25 (normal) of 15 patients (18.5%), a score of 17-21 (DE Light) of 14 patients (17.3%) , a score of 12-16 (DE Light is) a total of 14 patients (17.3%), score 8-11 (DE Moderate) of 19 patients (23.5%), and a score  $\leq 7$  (DE Weight) of 19 patients (23.5%).

While the ED with EHS obtained: score 1 of 22 patients (27.2%), score 2 of 28 patients (34.6%), score 3 of 16 patients (19.8%), score 4 of 15 patients (18, 5%).

Examination of the penis of oxygen saturation by pulse oximetry (Roscoe) of 81 samples obtained an average  $75.22\% \pm 11.639$  with a range between 35% - 96%. Results of oxygen saturation in patients with ED based on IIEF scores obtained: an average score of 22-25 87.0667% oxygen saturation (n: 15), a mean score of 17 -21 81.1429% oxygen saturation (n: 14), a score of 12-16 the average oxygen saturation 74.4286 % (n: 14), score 8-11 average of 68.9474% oxygen saturation (n: 19), score  $\leq 7$  average of 68.3684% oxygen saturation (n: 19).

The results of statistical analysis with the Analysis of Variants (ANOVA) found significant difference between the mean oxygen saturation with ED based on IIEF score significantly different from each other between the score 22-25 (normal) to 12-16 (mild ED were) to 8-11 (DE medium),  $\leq 7$  (DE Heavy). Score 17-21 (mild ED) and 8-11 (DE medium),  $\leq 7$  (DE Heavy.) Score 12-16 (mild ED medium) with 22 -

25 (normal). Score 8-11 (DE medium) with 22 - 25 (normal), 17-21 (mild ED).  
Score  $\leq 7$  (DE Heavy) with 22 - 25 (normal), 17-21 (mild ED).

Results of oxygen saturation in patients with ED based on the scores obtained EHS: score 1 average of 67.4545% oxygen saturation (n: 22), score 2 mean oxygen saturation 71.5714% (n: 28), score 3 mean oxygen saturation 81.1875% (n: 16) , the average score of 4, 87.0667% oxygen saturation (n: 15).

The results of statistical analysis with the Analysis of Variants (ANOVA) found there are significant difference in mean oxygen saturation with ED based on mutual EHS score significantly different between the score of 1 (severe ED) to 3 (mild ED), and 4 (normal). Score 2 (DE medium) to 3 (mild ED), and 4 (normal). Score of 3 (mild ED) to 1 (severe DE) and 2 (DE medium). Score 4 (normal) to 1 (severe DE) and 2 (DE medium).

**CONCLUSIONS:** The measurement of oxygen saturation in healthy male penis in comparing measurements of oxygen saturation in penile erectile dysfunction with comorbid vascular disorders using pulse oxymetri have clinical significance and can be done objectively.

*Key words* : oxygen saturation, erectile dysfunction, pulse oximeter.