Efek Pemberian Oksigen Hiperbarik (OHB) Terhadap Kadar Malondialdehyde (MDA) Pada Perawat Dengan Kelelahan Di RS. X = The Effect of Hyperbaric Oxygen (HBO) on Malondialdehyde (MDA) Plasma Level for Nurses with Fatigue at Hospital X

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Abstrak

Latar Belakang: Penelitian ini bertujuan menentukan efek dari pemberian Oksigen Hiperbarik (OHB) sesi tunggal, terhadap kadar plasma Malondialdehyde (MDA) pada perawat yang mengalami kelelahan di RS. X. Metode: Penelitian ini adalah randomized double-blinded controlled trial pada 30 orang perawat RS X yang terdefinisi mengalami kelelahan berdasarkan kuesioner JIFRC (Japan Industrial Fatigue Research Committee). Subyek dirandomisasi, dibagi menjadi 15 orang di kelompok kontrol (menghirup udara biasa pada tekanan 1 ATA) dan 15 orang di kelompok intervensi (menghirup oksigen hiperbarik, pada tekanan 2,4 ATA, menghirup O2 100% selama 3 x 30 menit, dengan interval udara biasa selama 5 menit). Sampel darah untuk menentukan kadar plasma MDA, diambil sebelum dan 1 jam setelah perlakuan, dengan metode TBARS (Thiobarbituric Acid Reactive Substances). Hasil: Nilai rerata kadar MDA sebelum perlakuan dan sesudah perlakuan, 3,42 ± 1,05 nmol/mL dan 3,63 ± 1,34 nmol/mL (p=0,623), sedangkan pada kelompok intervensi, berturut-turut, 3,50 ± 1,12 nmol/mL dan 3,50 ± 1,24 nmol/mL (p=0,990). Nilai rerata MDA (selisih individual nilai MDA sebelum dan sesudah perlakuan), antara kelompok kontrol dan intervensi, berturut-turut, 0,08 ± 1,05 nmol/mL dan - 0,13 ± 1,77 nmol/mL (p=0,692). Kesimpulan: Walaupun tidak terdapat hasil bermakna pada penelitian ini, namun dapat kami temui adanya kecenderungan penurunan kadar MDA pada kelompok intervensi yang dibandingkan dengan kecenderungan kenaikan kadar MDA pada kelompok kontrol.

.....Background: This study aimed to determine the effect of HBO single session on Malondialdehyde (MDA) plasma level for nurses with fatigue at Hospital X. Methods: This study is a randomized double-blinded controlled trial, on 30 fatigue nurses from Hospital X in Jakarta, defined by JIFRC (Japan Industrial Fatigue Research Committee) Questionnaire. Subjects randomized into 15 nurses in each group (control vs intervention). Control group was given atmospheric air (21% O2) under 1 ATA pressure, while intervention group was given 100% oxygen, for 3 x 30 minutes, under 2.4 ATA pressure, with 5 minutes interval-break inhaling compressed air (21% O2) in between. Blood sample for determining MDA plasma level, were sampled before- and 1 hour aftertreatment, using TBARS (Thiobarbituric Acid Reactive Substances) method. Results: MDA plasma levels before- and after-treatment in control's group, were consecutively, 3.42 ± 1.05 nmol/mL and 3.63 ± 1.34 nmol/mL (p=0,623), while in the intervention's group, respectively, were 3.50 ± 1.12 nmol/mL and 3.50 ± 1.24 nmol/mL (p=0,990). MDA (individual MDA value differences between after and before treatment) means, in control's and intervention's group was compared, subsequently they were 0,08 ± 1,05 nmol/mL and - 0,13 ± 1,77 nmol/mL (p=0,692). Conclusions: Even though, there is no significant differences, between the two groups in MDA plasma level, there is propensity of MDA plasma level decrease in intervention group, compared with raising MDA plasma level in the control group.