

keseimbangan asam basa berupa asidosis respiratorik yang belum terkompensasi sempurna pada perlakuan 14 hari.

## SARAN

Kepada peneliti selanjutnya, disarankan untuk dilakukan penelitian lanjutan berupa

pengukuran parameter stres oksidatif lainnya seperti superoksida dismutase (SOD), dan malondialdehid (MDA), dan katalase. Dapat juga dilakukan durasi perlakuan hiperoksia yang lebih lama, dilakukan pemeriksaan ekspresi gen atau protein HIF-1 $\alpha$  serta dilakukan pengamatan lebih lanjut pada lokasi spesifik secara mikroskopik maupun makroskopik jaringan otak.

## DAFTAR PUSTAKA

1. Campbell, Reece. *Biology*. 5<sup>th</sup> ed. USA: Benjamin-Cummings Pub Co; 2002.
2. Kumaria A, Tolasia CM. Normobaric hyperoxia therapy for traumatic brain injury and stroke: a review. *Br J Neurosurg*. 2009;23(6):576-84.
3. Dartmouth Collage. Oxygen transport. (updated 1999 Nov; cited 2015 Dec 1). Available from: [http://www.dartmouth.edu/~rpsmith/Oxygen\\_Transport.html](http://www.dartmouth.edu/~rpsmith/Oxygen_Transport.html)
4. Ray P, Huang B, Tsuji Y. Reactive oxygen species (ROS) homeostasis and redox regulation in cellular signaling. *Cell Signal*. 2012;24(5):981-90.
5. Quinn, M.T., Gauss, K.A. Structure and regulation of the neutrophil respiratory burst oxidase: comparison with nonphagocyte oxidases. *J Leukoc Biol*. 2004;76:760–81.
6. Murray R, Granner D, Rodwell V. *Harper's illustrated biochemistry* 27<sup>th</sup> ed. USA: The McGraw-Hill Companies; 2006.
7. Campbell M, Farrel S. *Biochemistry*. 7<sup>th</sup> ed. USA: Brooks Cole; 2012.
8. Autreaux D, Toledano B. ROS as signalling molecules: Mechanisms that generate specificity in ROS homeostasis. *Nat Rev Mol Cell Biol*. 2007;8:813-24 .
9. Duong TQ, Iadecola C, Kim S. Effect of hyperoxia, hypercapnia, and hypoxia on cerebral interstitial oxygen tension and cerebral blood flow. *Magnetic Resonance in Medicine*. 2001;45:61–70.
10. Federer WT. *Experimental design: theory and application*. New York: Mscmillsn; 1995.
11. Siantur M. *Penentuan besar sampel*. Semarang: Universitas Diponogoro; 2007.
12. Ellman GL. Tissue sulfhydryl groups. *Arch Biochem Biophys*. 1959;82(1):70–7.
13. Yu D, Cringle SJ, Alder V, Su E. Intraretinal oxygen distribution in the rat with graded systemic hyperoxia and hypercapnia. *Invest Ophthalmol Vis Sci*. 1999;40:2082-87.
14. Husain K, Sugendran K, Pant SC, Sharma VP. Biochemical and pathological changes in response to hyperoxia and protection by antioxidants in rats. *Physiol Pharmacol*. 1992;36(2):97-100.

15. Jalilah IB. Selenium effect on hyperoxia-induced glutathione peroxidase activity and free radical production in the brain. *American Journal of Environmental Science*. 2013;9(5):439-45.
16. Puccio AM. Effect of short periods of normobaric hyperoxia on local brain tissue oxygenation & cerebrospinal fluid oxidative stress markers in severe traumatic brain injury. *J Neurotrauma*. 2009;26(8):1241-9.
17. Mendelow AD, et all. *Brain Edema XI: Proceedings of the 11th International Symposium*; 1999 June 6-10; Newcastle-upon-Tyne, United Kingdom: Springer Science & Business Media; 2012.
18. Spacek J. Basic Normal and pathological anatomy of human brain. SynapseWeb. 2013 (cited 2015 Dec 1). Available from: [synapses.clm.utexas.edu/anatomy/HumanBrainAnatomy\\_Spacek.pdf](http://synapses.clm.utexas.edu/anatomy/HumanBrainAnatomy_Spacek.pdf)