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PII: S1871-4021(16)30086-8
DOI: http://dx.doi.org/doi:10.1016/j.dsx.2016.06.024
Reference: DSX 614

To appear in: *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*

Please cite this article as: Alzoubi Mohammed, Aldomi Hayder.Could Omega-3 Fatty Acids a Therapeutic Treatment of the Immune-metabolic Consequence of Intermittent Hypoxia in Obstructive Sleep Apnea?.*Diabetes and Metabolic Syndrome: Clinical Research and Reviews* http://dx.doi.org/10.1016/j.dsx.2016.06.024

Could Omega-3 Fatty Acids a Therapeutic Treatment of the Immune-metabolic Consequence of Intermittent Hypoxia in Obstructive Sleep Apnea?

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Abstract:

Obesity and Obstructive sleep Apnea (OSA) seems to bi-directional; obesity itself increases the risk of OSA, but on the other hand, OSA may also predispose the individuals to weight gain, both obesity and OSA share a common immune-metabolic link state which have a synergistic effect on the activation of inflammation, insulin resistance and dyslipidemia, and cardiovascular disease. The Immune-metabolic role of omega-3 fatty acids Docosahexaenoic acid (DHA) and Eicosapentaenoic acid (EPA), which capable of modulating both metabolic and immune process, which may decrease pro-inflammatory cytokines, insulin resistance, and dyslipidemia. To date, no study in humans suffering from OSA and omega-3 fatty acids has been performed. Hence, the objective of this review aimed to discussing the link between immune-metabolic consequences related to intermittent hypoxia and does Omega-3 fatty acids a therapeutic treatment for co-morbidity associated with obstructive sleep apnea.

Key words: Obesity, Obstructive Sleep Apnea, intermittent Hypoxia, Omega 3 Fatty Acids, Inflammation, Insulin Resistance.