

Correspondence to the Editor:

“Use of Intravenous Fat Emulsions in Adult Critically Ill Patients: Does omega 3 make a difference?”

Sir,

With great interest we have read your recent publication on “Use of Intravenous Fat Emulsions in Adult Critically Ill Patients: Does omega 3 make a difference?” by Donoghue et al. South African Journal of Clinical Nutrition. 2017;30(3): 38-48.

However, in Table 2: “Characteristics of commercially available intravenous lipid emulsions used in reported randomized controlled trials” comparing the composition of available IV lipid emulsions, we were astonished about the given amounts of fatty acids for the IVLE SMOFlipid and Lipoplus 20%. The values listed in the table were based on data from references 28, 29, 32, and 42.

In the paper by Calder et al. (ref 28 in the Donoghue paper¹) the amount of EPA was given with 3% of total FA and DHA 2% for SMOFlipid vs. 3.5% EPA and 2.5% DHA for Lipoplus 20%, respectively. Vanek et al. 2012² (ref 32 in the Donoghue paper) and Anez-Bustillos et al. 2016³ (ref 29 in the Donoghue paper) in their papers published the same values for the EPA and DHA content in SMOF and Lipoplus as Calder. However, in the publication by Hojsak et al. 2016⁴ (ref 42 in the Donoghue paper) the respective values for EPA and DHA were much higher and were given for SMOFlipid only, without a direct comparison to Lipoplus 20%. Hojsak himself makes reference for the fatty acid composition to a publication by Wanten et al. 2007⁵ who in turn took data provided by the manufacturer.

So the data on the fatty acid composition of SMOFlipid in the Donoghue paper seem to be not clearly reproducible. In this respect we would like to draw your attention to a paper by Driscoll et al. published in 2009,⁶ which was not cited in the Donoghue paper, Driscoll and co-workers performed a detailed fatty acid analysis of SMOFlipid and Lipoplus 20%

providing a comprehensive direct comparison of the fatty acid composition of these two lipid emulsions. According to the measured values, the EPA and DHA content of SMOFlipid was 3.03 ± 0.12 wt% and 2.0 ± 0.15 , respectively vs. 3.69 ± 0.14 and 2.53 ± 0.14 wt% in Lipoplus 20%. These values are in line with the data provided by Calder, Anez-Bustillos and Vanek et al. and do not reflect the high EPA and DHA content of SMOFlipid given by Donoghue et al.

In conclusion, we disagree with the information concerning the fatty acid composition of SMOFlipid given in Table 2 of the Donoghue paper. Therefore we are seeking clarification and a correction of the published content.

Dr. Norbert Nagel, Anna Harder

*B. Braun Melsungen AG. Division Hospital Care,
34209 Melsungen, Germany*

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5. Wanten GJA, Calder PC. Immune modulation by parenteral lipid emulsions. *Am J Clin Nutr.* 2007;85:1171-84.
6. Driscoll DF, Ling P-R, Bistran BR. Pharmacopeial compliance of fish oil-containing parenteral lipid emulsion mixtures: Globule size distribution (GSD) and fatty acid analyses. *Int J Pharm.* 2009;379:125-30.

Authors reply

Sir,

Use of Intravenous Fat Emulsions in Adult Critically ill Patients: Does omega 3 make a difference?: Response letter to the editor

We have read with interest the letter to the editor by Norbert Nagel and Anna Harder from B Braun Melsungen AG, commenting on Table 2: "Characteristics of commercially available intravenous lipid emulsions used in reported randomized controlled trials".

We acknowledge the amount of EPA and DHA for SMOFlipid and Lipoplus 20% is a controversial topic as different values have been published by various authors as alluded to by Nagel and Harder. Kreyman et al. 2017¹ also documented the variations in EPA and DHA values in the different lipid emulsions and chose to report a range, as opposed to absolute values, due to the variation in the fish oils used for production. This variation was also demonstrated in the Driscoll et al. 2009 publication².

In order to obviate such controversies in the literature, we agree that it might be preferable to report ranges rather than absolute values.

Veronique Donoghue^a, Renée Blaauw^b and Maryke Spruyt^c

^a Masters student, Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University South Africa

^b Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University South Africa

^c Head, Clinical Department: Critical Care, Faculty of Health Sciences, University of the Free State South Africa

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1. Kreyman KG, Heyland DK, de Heer G, Elke G. Intravenous fish oil in critically ill and surgical patients - Historical remarks and critical appraisal. Clin Nutr. <http://dx.doi.org/10.1016/j.clnu.2017.07.006>
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News

Corrigendum

In the review on "Use of Intravenous Fat Emulsions in Adult Critically Ill Patients: Does omega 3 make a difference?" by Donoghue et al. in the South African Journal of Clinical Nutrition 2017; 30(3):38-48, Table 2, (in its indicated components) is corrected to read as follows:

Table 2: Characteristics of commercially available intravenous lipid emulsions used in reported randomized controlled trials (1-9).

Composition Abbreviation	Intralipid 20% SO	Lipofundin 20% MCT/LCT	ClinOleic 20% OO/SO	SMOFlipid 20% SMOF	Omegaven 10% FO Not available in SA	Lipoplus 20% MCT/LCT/FO Not available in SA
% Fatty acids						
EPA	0	0	0	3.0-4.7	19.2	3.5-3.7
DHA	0	0	0	2.0-4.4	12.1	2.5

Abbreviations: SO: Soybean oil; MCT: Medium Chain Triglycerides; OO: Olive Oil; FO: Fish oil; EPA: Eicosapentaenoic Acid; DHA: Docosahexaenoic acid

The corrigendum is published to provide a composition range, as opposed to absolute values where appropriate, due to the variation in the inherent content of the fish oils used for the production of lipid emulsions, as well as to obviate any controversies arising therefrom.