

translate nutrition knowledge to COVID-19 sensitive practice. A collaborative, scientific and politically neutral approach was intended to ensure the quality of outputs and the avoidance of hasty conclusions. Other challenges have been maintaining relevance to all geographic regions given the global variation of COVID-19 and maximising the reach of outputs to stakeholders who would benefit most from them. More recently the Taskforce has provided key inputs to consensus in a national guideline agency and global advisory bodies. Further progress will require involvement of researchers and innovators, policymakers, practitioners, patients and the public.

**Discussion/Conclusion** This Taskforce has already made a significant contribution to the scientific conversation about food and nutrition in the prevention and management of COVID-19. Future work should focus on multiple-stakeholder collaboration to transform research into positive action at all levels (from patient to policy) for the benefit of public health.

## REFERENCES

1. NNEdPro Global Centre for Nutrition and Health. COVID19: Useful resources. *nnedpro.org.uk*. [Online] [Cited: September 7, 2020.] <https://www.nnedpro.org.uk/coronavirus>.
2. NNEdPro Global Centre for Nutrition and Health. COVID19: Nutrition Resources. *nnedpro.org.uk*. [Online] [Cited: September 7, 2020.] <https://www.nnedpro.org.uk/covid-19nutrition-resources>.
3. NNEdPro Global Centre for Nutrition and Health. Combatting COVID-19: A 10-point summary on diet, nutrition and the role of micronutrients. *nnedpro.org.uk*. [Online] [Cited: September 7, 2020.] <https://www.nnedpro.org.uk/post/combating-covid-19>.
4. *Dietary micronutrients in the wake of COVID-19: an appraisal of evidence with a focus on high-risk groups and preventative healthcare*. McAuliffe, Shane, et al. London: BMJ Nutrition, Prevention & Health, 2020, Vols. bmjnph-2020-000100. doi: 10.1136/bmjnph-2020-000100.

22

## THE INFLUENCE OF BODY MASS INDEX, GLYCEMIC CONTROL AND VITAMIN D STATUS ON OUTCOMES IN PATIENTS ADMITTED TO INTENSIVE CARE WITH COVID-19: A SINGLE CENTRE RETROSPECTIVE STUDY

<sup>1,2</sup>Timothy Eden, <sup>1</sup>Jonathan Neville, <sup>2</sup>Shane McAuliffe, <sup>2</sup>Dominic Crocombe, <sup>2</sup>Sumantra Ray. <sup>1</sup>Imperial College Healthcare NHS Trust, London, UK; <sup>2</sup>NNEdPro Global Centre for Nutrition and Health, St John's Innovation Centre, Cambridge, UK

10.1136/bmjnph-2022-nnedprosummit.27

**Background** Coronavirus disease 2019 (COVID-19) is an inflammatory syndrome caused by a novel coronavirus (SARS-CoV-2). Symptoms range from mild infection to severe acute respiratory distress syndrome (ARDS) requiring ventilation and intensive care (ICU).<sup>1</sup> UK cases have exceeded 300,000 with a fatality rate of 13% necessitating >10,000 critical care admissions.<sup>2</sup> Nutrition is important to immune function and influences metabolic risk factors such as obesity and glycaemic control. Poor nutritional status is associated with worse outcomes in ARDS and viral infections yet limited research has assessed pre-morbid nutritional status and outcomes in patients critically unwell with COVID-19.<sup>3</sup>

**Objectives** Investigate the effect of body mass index, glycaemic control and vitamin D status on outcomes in adult patients admitted to a ICU with COVID-19.

**Methods** Retrospective review of all patients admitted to a central London ICU between March-May 2020 with confirmed COVID-19. Electronic patient records data was analysed for patient demographics; co-morbidities; admission BMI; serum vitamin D concentration and plasma HbA1c. Serum vitamin D and HbA1c were measured on admission, or

within one month of admission to ICU. Primary outcome was mortality. Secondary outcomes included time intubated, ICU stay duration, and ICU-related morbidity.

**Results** N = 72 patients; 54 (75%) male, mean age 57.1 ( $\pm$  9.8) years. Overall mortality was 24 (33%). The highest rate was observed in the overweight BMI range (25-29.9kg/m<sup>2</sup>) p-value <0.001. In the survival arm admission HbA1c (mmol/mol) was lower 50.2 vs 60.8 but was not statistically significant. Vitamin D measures (n=51) correlated significantly higher mortality for individuals with vitamin D deficiency (<25 IU/L) 16%, p-value 0.013, versus no deaths in those with levels >50 IU/L (n=8).

**Discussion/Conclusion** There was a correlation between overweight and mortality, and possible (nonsignificant) association between glycaemic control and poor prognosis, as seen in larger observational studies.<sup>4 5</sup> Increased adiposity and deranged glucose homeostasis may potentially increase risk of COVID-19 infection and severity, possibly relating to impaired lung and metabolic function, increased proinflammatory and thrombotic mechanisms. Vitamin D deficiency associated with poorer outcomes and mortality, supporting a possible role of vitamin D in immune function specific to pulmonary inflammation and COVID-19 pathophysiology.<sup>6</sup> Further research is needed into specific nutritional markers influencing critical care admissions with COVID-19.

## REFERENCES

1. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA* [Internet] 2020 Mar 17; **323**(11):1061–9. Available from: <https://doi.org/10.1001/jama.2020.1585>
2. Intensive Care National Audit and Research Centre (ICNARC). ICNARC report on COVID-19 in critical care 31 July 2020. 2020.
3. Loi M, Wang J, Ong C, Lee JH. Nutritional support of critically ill adults and children with acute respiratory distress syndrome: a clinical review. *Clin Nutr ESPEN* [Internet] 2017; **19**:1–8. Available from: <http://www.sciencedirect.com/science/article/pii/S2405457716303667>
4. Apicella M, Campopiano MC, Mantuano M, Mazoni L, Coppelli A, Del Prato S. COVID-19 in people with diabetes: understanding the reasons for worse outcomes. *Lancet Diabetes Endocrinol* [Internet] 2020 Sep 1; **8**(9):782–92. Available from: [https://doi.org/10.1016/S2213-8587\(20\)30238-2](https://doi.org/10.1016/S2213-8587(20)30238-2)
5. Sattar N, Ho FK, Gill JM, Ghouri N, Gray SR, Celis-Morales CA, et al. BMI and future risk for COVID-19 infection and death across sex, age and ethnicity: preliminary findings from UK biobank. *Diabetes Metab Syndr* [Internet] 2020 Jun 30; **14**(5):1149–51. Available from: <https://pubmed.ncbi.nlm.nih.gov/32668401>
6. Lanham-New SA, Webb AR, Cashman KD, Buttriss JL, Fallowfield JL, Masud T, et al. Vitamin D and SARS-CoV-2 virus/COVID-19 disease. *BMJ Nutr Prev Heal* 2020;bmjnph-2020-000089.

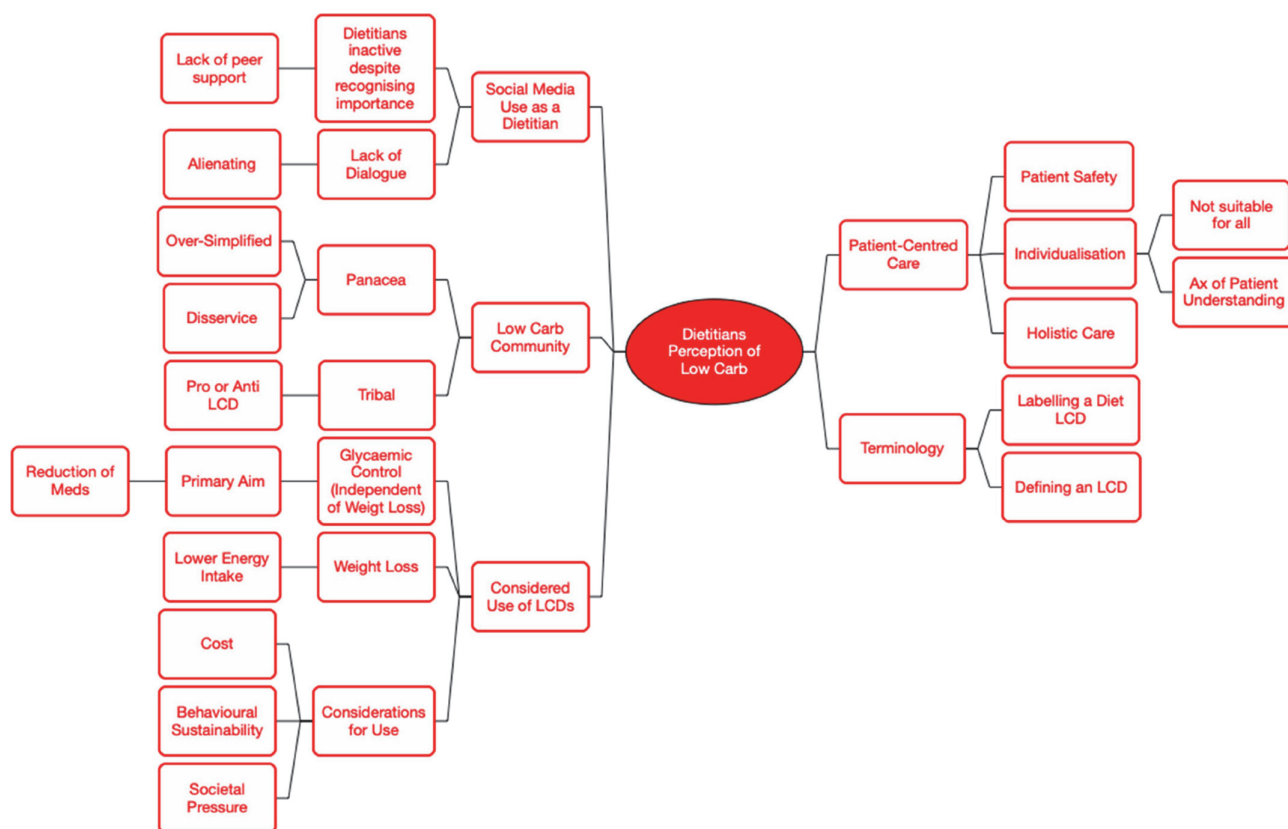
23

## A QUALITATIVE STUDY OF THE PERCEPTIONS OF LOW CARBOHYDRATE DIETS AND THEIR DISCUSSION ON SOCIAL MEDIA AMONG DIETITIANS IN ENGLAND

<sup>1,2</sup>James Bradfield\*, <sup>1</sup>Tom Butler, <sup>1</sup>Rob Skinner, <sup>2</sup>Sumantra Ray. <sup>1</sup>Department of Clinical Sciences and Nutrition, University of Chester, Chester, CH1 4BJ, UK; <sup>2</sup>NNEdPro Global Centre, St Johns Innovation Centre, Cambridge, CB4 0WS, UK

10.1136/bmjnph-2022-nnedprosummit.28

**Background** Low carbohydrate diets (LCDs) have gained popularity among those seeking to lose weight and improve glycaemic control. They feature heavily in online discussions such as on social media. Evidence exists to support their use,<sup>1</sup> but at present no universal definition of 'low carbohydrate' exists. Though the practices of dietitians around LCDs have been examined,<sup>2 3</sup> none have assessed this in relation to use of social media.



Abstract 23 Figure 1 Themes

**Objectives** The objective was to establish what a representative sample of dietitians in England believe, think and do with LCDs in their clinical practice.

**Methods** Recruitment of 10 dietitians working in weight management and/or diabetes in England took place online. They completed a short survey and a one-to-one, semi-structured interview using online teleconferencing. Interviews lasted 30 minutes and explored their knowledge, attitudes and practices towards LCDs, and how they are discussed online. Interviews were transcribed for content and thematic analysis.

**Results** A number of themes became apparent, namely: (1) patient-centred care, (2) LCD community, (3) considered use of LCDs, (4) social media and (5) terminology. Each also had a number of sub-themes, such as individualisation, lack of dialogue and labelling of diets for the themes above.

**Discussion** Overall, the dietitians in this study were happy to use LCDs with their patients, in a safe and individualised manner. They expressed concerns about how the diets are sometimes represented online as a panacea and the inability to engage in respectful discussion with some of its proponents. These findings add to existing work completed in the area.<sup>2 3</sup>

**Conclusions** The dietitians in this study were happy to support patients to follow an LCD, in a safe and individualised manner such as under dietetic supervision. They considered them more useful for improving GC and medication reductions. A standard definition of LCDs would help patients and practitioners to communicate effectively. Additionally, education in online engagement could help improve dietitians overall confidence and practice in operating effectively in this environment.

#### REFERENCES

- Hallberg S, McKenzie A, Williams P, *et al.* Effectiveness and safety of a novel care model for the management of type 2 diabetes at 1 year: an open-label, non-randomized, controlled study. *Diabetes Therapy* 2018;**9**(2):613–621.
- Huntriss R, Boocock R, McArdle P. Dietary carbohydrate restriction as a management strategy for adults with type 2 diabetes: exploring the opinions of dietitians. *Journal of Diabetes Nursing* 2019;**23**:JDN104.
- McArdle P, Greenfield S, Avery, *et al.* Dietitians' practice in giving carbohydrate advice in the management of type 2 diabetes: a mixed methods study. *Journal of Human Nutrition and Dietetics* 2016;**30**(3):385–393.