



Scottish Section Conference 2024, 26-27 March 2024, Circadian rhythms in health and disease

## Exploring protein literacy online: a thematic analysis of YouTube comments on food protein knowledge

C.M. Conti<sup>1</sup>, E. Nikokavoura<sup>1</sup> and L. Starr-Vaanholt<sup>1</sup>

<sup>1</sup>School of Pharmacy and Life Sciences, Robert Gordon University, AB10 7GJ, Aberdeen, UK

Social media platforms like YouTube have become tools to get information on self-care, including nutrition and health. Recently, there has been a growing public interest in protein sources and protein content of foods due to health and environmental concerns<sup>(1)</sup>. High-protein diets, particularly, have gained popularity for their perceived benefits<sup>(2)</sup>, highlighting the importance of individuals' nutritional literacy. This study aimed to identify and describe the predominant topics about food protein discussed by YouTube commenters to explore their level of protein literacy.

Videos for analysis were selected employing the approach suggested by Gibson<sup>(3)</sup>. Comments added from 2022 to 26 June 2023 (date of data collection), posted within 15 YouTube videos related to food proteins, were extracted through a big data text analysis software, Mozdeh<sup>(4)</sup>, which allows the gathering of comments from YouTube videos by utilising YouTube APIs to collect data. Eight search terms (*protein for vegetarians, protein shake, protein foods, low protein foods, Vegan diet, Keto or keto diet, plant based diet vs animal based diet, high protein diet*), informed by YouTube's search predictions and Google Trends, facilitated video identification. Inductive semantic thematic analysis<sup>(5)</sup> was conducted to organise comments into patterns (codes) and to summarise, interpret, and theorise meanings in broader concepts by connecting them<sup>(5)</sup>.

Of 3,993 comments, 307 referred to food and dietary protein-related content, with a subset of comments contributing to multiple codes. Five themes emerged: 1: *Quality* (with a reference percentage of comments (RP) = 20.0%, indicating the proportion of comments pertinent to a given theme, relative to the total number of comments), about comments on bioavailability and amino acids content of protein sources; 2: *Intake* (RP = 30.0 %), regarding protein requirements and metabolism; 3: *Health* (RP = 15.0%), about health consequences and benefits of protein intake; 4: *Sources* (RP = 10.5%), on aspects inherent to specific food protein sources; 5: *Queries* (RP = 25%), related on questions and concerns raised by users.

Comments primarily focused on the importance of identifying daily protein requirements, the perceived ineffectiveness of high-protein diets, and the need for personalised dietary guidance. Also, a polarised viewpoint regarding protein sources emerged, with a marked divergence between animal- and plant-based diet advocates. This study underscores the significant demand for nutritional advice on YouTube, emphasising the potential use of the platform as a means for sharing validated information by registered nutritionists and authoritative bodies. It also accentuates the pressing need for implementing methods into the platform to guarantee the reliability of shared information, such as community-driven approaches that can alert the public about potential misinformation. Future research should delve into the validity of nutritional claims made by non-expert contributors and shed light on their impact on shaping nutritional literacy among the public.

### References

1. Fasolin LH, Pereira RN, Pinheiro AC *et al.* (2019) *Food Research International* **125**, 108–586.
2. Lusk JL (2019) *PLOS ONE* **14**, e0223098.
3. Gibson M (2016) *Journal of sociology (Melbourne, Vic.)* **52**, 631–645.
4. Thelwall M (2005) Mozdeh: Big Data Text Analytics [Available at: <http://mozdeh.wlv.ac.uk>]
5. Braun V & Clarke V (2006) *Qualitative Research in Psychology* **3**, 77–101.