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A year in the public life of COVID-19 and vitamin D: representation in UK news and social media and implications for future health communications

R. Innes[1], E. Miyake[2], D. Pennington[3] and A. Mavroeidi[1]
[1]*Physical Activity for Health Research Group, School of Psychological Sciences and Health, University of Strathclyde, Glasgow, UK,*
[2]*Department of Journalism, Media and Communication, University of Strathclyde, Glasgow, UK and*
[3]*Department of Computer and Information Sciences, University of Strathclyde, Glasgow, UK*

The scientific basis for the potential relationship of vitamin D status with COVID-19 is mainly based upon the association of low serum concentration of 25(OH)D with increased susceptibility to acute respiratory tract infections[(1)], which are prevalent within the COVID-19 pathology. As such, especially at the beginning of the pandemic, vitamin D was at the centre of media attention, often portrayed as a potential therapeutic agent in the combat to slow down the rate of the infection[(2)].

The aim of this investigation was to examine how the relationship between vitamin D and COVID-19 was presented in different media sources (traditional e.g. UK newspapers vs. social e.g. Twitter) and assess the level of misinformation associated with this issue by comparing media content to evidence-based guidelines.

Data were collected over the first year of the pandemic (February 2019–20), from the social medium Twitter and 5 of the most widely read UK based newspapers using the keywords "vitamin D" and "COVID". An inductive thematic analysis was carried out on the data to identify themes and subthemes. Quality control of the coding was conducted on a sample of the dataset (20%). Data were also compared to the "ground truth" identified as the NICE report titled "COVID-19 rapid guideline: vitamin D"[(3)] to explore the accuracy of media outputs.

The same four themes were identified from both traditional and social media sources, 'association of vitamin D with COVID-19', 'politically informed views', 'vitamin D deficiency' and 'vitamin D sources'. All but two of the sub themes were also identical. However, the content within each subtheme differed across sources. For example, newspapers regularly recommended 10 microgram supplements, whereas Twitter users frequently stated that this dose was "grossly underestimated". When relevant codes were compared to the NICE report, 72% of the codes from newspaper articles were 'correct', whereas 81% of the codes from Twitter relating to were 'incorrect'.

Although the same types of information were shared across media sources highlighted by the identical main themes, the representation of the relationship of vitamin D with COVID-19 differed. This study highlights that health-related misinformation remains a prevalent issue especially on social media platforms, despite attempts from companies such as Twitter to combat the issue[(4)]. The amount of misinformation was notably lower in the newspaper articles, but still present.

Future research should focus on the accuracy of media outputs to further investigate health misinformation as an issue (in both traditional and social media) and how that may affect public health. Attempts should be made to improve journalistic integrity through more rigorous and standardised regulations enforced across all media outlets so that public knowledge on current events is based on evidence rather than conjecture.

References

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