Supplementary Table 3: Study characteristics, results and risk of bias assessments of content analysis studies evaluating quality and/or accuracy of nutrition-related information on social media

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| **Study, year** | **Nutrition-related topic** | **Social media platform** | **Country** | **Sample size** | **Data** **collection period** | **Search & selection strategy** | **Evaluation method/tool(s) used** | **No. of raters** | **Inter-rater reliability assessed?** | **Key findings** | **Risk of bias assessment** |
| **Quality** |
| Sabbagh et al.(44) 2020 | Weight loss | Blogs | UK | 180 posts (from 9 blogs) | NR | Influencers were identified through marketing website ‘influence.co’, filtered by ‘United Kingdom’ and ‘nutritionGoogle search using search terms: “nutrition”, “diet”, “physical activity”, “weight management”, “obesity”, “blog” and “influencer”20 most recent relevant blog posts by UK based influencers included | Quality criteria developed for study based on systematic review resultsThirteen criteria were included, and scores reported as a percentage | NR | No | - Average quality score was 49%- Maximum score was 85% and minimum 23%- 6 (67%) influencers did not distinguish fact from opinion, providing no or inadequate references- 2 (22%) influencers did not disclose advertising- 5 (56%) did not provide a disclaimer and 4 (44%) did not include a privacy policy- Authorship was clear for all blogs- 2 (22%) influencers were adequately qualified to provide nutrition and weight loss advice- Occupations were: 2 personal trainers, 1 medical doctor, 2 chefs, 1 registered associate nutritionist, 1 nutritional therapist and 2 unknown.- The registered nutritionist had the highest quality/credibility score of 85%. | Neutral |
| Basch et al.(35) 2016 | Supplements (multivitamins) | YouTube | None | 97 videos | NR | YouTube searchSearch terms: "multivitamin supplement" and "vitamin"100 most viewed videos screened | Content of videos was evaluated (no further details provided) | 2 | Yesĸ = 0.98 | - 80.4% mentioned benefits and 72.2% advocated for use of the supplement - 84.5% did not mention risks associated with taking the supplement- 45.5% referred to research- 42.3% reported how much of a supplement to take- 8.2% mentioned safety- 42.9% (95% CI: 24.6%, 61.2%) of videos uploaded by television and internet sources mentioned risks- 60.7% of videos uploaded by television and internet sources (95% CI: 42.6%, 78.8%) and 55.6%, by medical professionals (95% CI: 23.1%, 88.1%) referred to previous studies or research | Neutral |
| **Accuracy**  |
| AlKhaja et al.(60) 2018 | Supplements | WhatsApp | Kingdom of Bahrain | 4 messages | June 2016 – September 2017 | Convenience sample from messages received on WhatsApp during the study period that were related to dietary supplements | Information was compared to clinical evidence, FDA, European Medicines Agency, CDC and international treatment guidelinesMessages were classed as: “true”, “potentially misleading” or “false” | 2 | No | - \*75% of claims/messages about the supplements were "potentially misleading"- \*25% of claims/messages were "true" | Negative |
| Koball et al.(76) 2018 | Bariatric surgery and nutrition | Facebook | None | 169 posts | May 2016 | Facebook searched for bariatric surgery groupsA random selection of posts examined from consenting groups with the highest number of members | Registered dietitians coded the information based on clinical expertise and ASMBS expert nutrition guidelines, Obesity Society, ASMBS, and the AACE clinical practice guidelines | 3 | No | - 11 (7%) of posts were inaccurate- 38 (22%) of posts contained both accurate and inaccurate information- 41 (24%) of posts contained information that was too ambiguous to evaluate- 79 (47%) of posts contained accurate information | Positive |
| Kiedrowski et al.(42) 2017 | Coeliac disease | YouTube | Poland | 91 videos | NR | YouTube searchSearch terms: "celiakia" (celiac disease), and "choroba trzewna" (Polish synonym for celiac disease)Number of results screened NR | Information assessed by 3 doctors with relevant expertise and 1 dietitian. Information classed as “credible” or “non-credible” based on the assessors’ knowledge | 4 | No | - 87 (95.6%) videos that contained culinary information and recipes for celiac disease were classed as credible | Negative |
| Alnemer et al.(97) 2015 | General | Twitter | None (written in Arabic) | 101 tweets | April 2015 | Twitter searchSearch terms related to healthy diets and nutrition in the Arabic language were usedDietitian accounts were identified as those whose bio provided a link to their clinic or hospital website | Information classed as false, true with weak, true with moderate, or true with strong evidence based on expert opinion (reviewers collaborated with experts in specific fields if needed). | 3 | YesFormula for agreement calculation:(true/[true + false])Expert 1: 0.57Expert 2: 0.78Expert 3: 0.22 | - 59 (58.4%) of dietitian's tweets were classified as false- 42 (41.6%) of dietitian's tweets were classified as true | Negative |
| **Quality & accuracy** |
| Batar et al.(98) 2020 | Bariatric surgery and nutrition | YouTube | None | 114 videos | February 2020 | YouTube was searched using terms: "after bariatric surgery diet", "weight loss surgery postop diet"First 100 videos for each keyword used with YouTube filtering for "most relevant" | Quality: - DISCERN Instrument - JAMA Benchmarks- GQS- Usefulness scoreAccuracy:Scoring system developed based on guidelines by the American Society for Metabolic and Bariatric Surgery | 2 | No | Quality:- Average DISCERN score: 31.58 ± 10.02 (max. possible score 80)- Average JAMA score: 2.25 ± 0.97 (max. possible score 4)- Average GQS score: 2.35 ± 0.98 (max. possible score 5)- Average Usefulness score: 3.1 ± 1.9 (max. possible score 10)- The DISCERN, JAMA, GQS, and Usefulness scores were significantly higher in physician- or dietician-based videos than in patient-based videos (P < 0.001).Accuracy:- Average accuracy score: 3.59 ± 1.82 (max. possible score 10)- Accuracy scores did not significantly differ between video sources (P >0.05) | Negative |
| Mete et al.(80) 2019 | General | Blogs | Australia | 76 posts (from 5 blogs) | December 2018 – March 2019 | Google, Bing and Yahoo searchesSearch terms: “Australian Healthy Eating Blogs” and “Top 100 Australian Healthy Eating Blogs”First page of results screened | \*\*Quality:HRWEF and SAM were adapted to create a coding scheme to guide analysisAccuracy:Information was compared to the ADG  | 2 | No | Quality:- 97% of posts explicitly stated their purpose- 100% used a conversational writing style- 100% used common words, explained jargon and used imagery - 100% adhered to layout criteria- 64% provided procedural knowledge, 17% declarative knowledge (with at least 40% procedural knowledge as well), 11% declarative knowledge only and 8% not applicableAccuracy:- 43% of posts explicitly adhered to the ADG- 17% of posts somewhat adhered- 7% of posts did not adhere- 33% of posts contained information that was not applicable | Neutral |
| Toth et al.(89) 2019 | Detox diets | Blogs | Canada | 10 blogs(5 by nutritionists and 5 by dietitians)  | November 2017 | Google searchesSearch terms: "detox diet nutritionist Ontario blog" and "detox diet dietitian Ontario blog" | Quality:Criteria developed by authors.Accuracy:Compared to findings from relevant systematic review | 2 | Yes96% agreement | Quality:- 80% of nutritionists and 0% of dietitians were selling a service related to detox diets- 40% of the dietitians used references, including peer-reviewed journal articles- References mentioned by nutritionists were not from peer-reviewed journals- 20% of nutritionists and 100% of dietitians were university educatedAccuracy:- 11% of nutritionists' statements were consistent with current evidence- 96% of dietitians' statements were consistent with current evidence | Positive |
| Reddy et al.(84) 2018 | Food allergies | YouTube | None | 300 videos | June 2016 – July 2016 | YouTube searchSearch terms: "food allergy" "food allergies"300 most frequently viewed videos that met inclusion criteria were included | Quality:GQSAccuracy:A tool was developed for this study based on authoritative guidelines, literature, and expert knowledge | 8 | Yes | Quality:- Average GQS of 2.4 (max. possible score of 5)Accuracy:- 26.3% of videos contained misleading information.- Average accuracy score was 4.05 (max. possible score of 34)- Average score for professional societies was higher than all other sources (all P < .001) | Neutral |
| Lambert et al.(78) 2017 | Renal diet | YouTube | None | 161 videos | April 2015 – July 2015 | YouTube searchesA list of renal diet search terms was usedResults on the first 7 pages of results were screened | Quality:DISCERN InstrumentAccuracy:Evaluated by two dietitians and first author compared to relevant evidence-based guidelines. If information contained any inaccurate information, it was coded as inaccurate overall. | 3 | No | Quality:- 94 (58.4%) considered “poor quality” (6 contained accurate information)- 48 (29.8%) considered “fair quality” (10 contained accurate information)- 19 (11.8%) of YouTube videos were considered “good quality” (13 contained accurate information)Accuracy:- 29 (18%) contained accurate information- 132 (82%) contained inaccurate information | Neutral |
| Rhoades et al.(85) 2010 | Food safety | YouTube | None | 76 videos | “Mid-summer”2007 | YouTube searchSearch terms: "food safety"81 results returned and all were screened | \*\*Quality:Criteria developed by authors Accuracy:Accuracy of information assessed based on professional knowledge/opinion | 2 | YesInter-coder Holsti’s reliability = 90.7% | Quality:- Average score was 3.7 ± 1.1 (max. possible score of 5)- 28 (36.8%) videos cited or showed a source.Accuracy:- 1 video (3.1%) contained researcher-identified falsehoods. | Negative |

\*Calculation for figure performed by ED based on results or supplementary material

\*\*Quality criteria included assessment of information accuracy

Abbreviations: AACE: American Association of Clinical Endocrinologists; ADG: Australian Dietary Guidelines; ASMBS: American Society for Metabolic and Bariatric Surgery; CDC: Centre for Disease Control; FDA: Federal Drug Administration; GQS: Global Quality Score; HRWEF: Health-Related Website Evaluation Form; JAMA: Journal of the American Medical Association; NR: not reported; SAM: Suitability Assessment of Material; UK: United Kingdom