

Previous research examining the accuracy and balance of reporting of clinical trial data has defined spin as “specific reporting strategies, intentional or unintentional emphasizing the beneficial effect of the [new] treatment” without the requisite data to support the stated benefit (Yavchitz, et al 2012; see also Haneef, 2015,; Haneef et al 2017; Yavchitz, et al 2016). Congruent with this research, in the present study we defined spin as “a specific way of reporting, intentional or not, to highlight that the beneficial effect of the experimental treatment [digital aripiprazole] in terms of efficacy or safety is greater than that shown by the results (i.e., overstate efficacy and/or understate harm, see Yavchitz, et al 2016). Following Yavchitz et al 2012; 2016, and Haneef, 2015 we assessed spin using 3 main categories: misleading reporting; misleading interpretation; overgeneralization/inappropriate extrapolation. Because Haneef et al (2015) reviewed a heterogeneous sample of Google Health News stories covering a wide range of drugs and interventions, and the current study was focused exclusively on one drug-device combination, we adapted their original questions:

*Misleading reporting:* Haneef et al defined misleading reporting as “an incomplete or inadequate reporting of any important information in context of that research and that could be misleading for the reader” (p. 3). We used this definition and the results of our systematic review of clinical trial data to develop specific questions to assess spin. As is described below in the results section, our review failed to identify any clinical trial data that indicated an increase in compliance.

- 1) Did the news article acknowledge that there is no evidence that monitoring is associated with increased adherence?

*Misleading interpretation:* Haneef et al defined misleading interpretation as “an interpretation of the study results in news not consistent with the results reported in the scientific articles and overestimating the beneficial effect of the treatment” (p.4). We used this definition to develop the following questions:

- 2) Did the news article acknowledge that there is scarce safety data?
- 3) Did the news article acknowledge that the digital version was not tested against an active non-digital comparator?

*Overgeneralization/misleading extrapolation:* Haneef et al defined overgeneralization/misleading extrapolation as “overgeneralization of study results in news to different populations, interventions or outcomes that were not assessed by the study” (p.4). We used this definition to develop the following question:

- 4) Did the news article give the impression of clinical benefit to patients for which there are currently no data? (e.g., consistent use of words/phrases such as ‘big advance;’ “innovation in healthcare” or unsupported claims of positive health outcomes)

Finally, we also included a question about citing experts free of commercial ties:

- 5) Was an expert cited and was the expert independent (i.e., was not a company representative/employee)?

*Classification of spin in the scientific literature*

We used the same questions noted above to assess the classification of spin in the scientific literature with the modification of question #2. Instead of asking if an independent expert was cited, we assessed whether or not the authors were supported by the manufacturers of the sensor (Proteus) or of aripiprazole (Otsuka).