Peer-Reviewed Articles and Public Health

The Mad Cow Affair in Italian Newspapers

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Context.—It has been suggested that early announcements of research works to be published in peer-reviewed journals may diminish newsworthiness of scientific articles, but this issue has not been widely studied.

Objective.—To analyze the impact on the news media, in terms of volume and prominence of coverage, of a scientific article published in peer-reviewed journals about issues with relevance to public health compared with the impact of preliminary release of information on the same issue.

Design.—Analysis of press coverage of Creutzfeldt-Jakob disease (CJD) and bovine spongiform encephalopathy (mad cow disease) in the 7 newspapers with the widest circulation in Italy, between March 20, 1996, when the British secretary of state for health announced the identification of 10 cases of a new-variant CJD, described April 6, 1996, in The Lancet, and May 10, 1996. Related newspaper articles were identified by hand search.

Main Outcome Measures.—Numbers of newspaper articles published before and after publication of the Lancet article.

Results.—We collected 535 articles, of which 62 (11.6%) appeared on the front page. The number of articles published daily peaked on March 26 with 48 items and 1 article on the front page of all the newspapers. A total of 386 (72%) of the 535 articles and 56 (88.7%) of the 62 published on the front page were published in the first 2 weeks of the study period, before the Lancet publication.

Conclusions.—Our analysis suggests that, in the case of issues of public health importance, when peer-reviewed research is published after a health risk is disclosed to the public, its impact in the media is small. Coordination between news release by public health authorities and publication by peer-reviewed journals may improve the quality of public information.

Methods

We performed an analysis of press reports on CJD and BSE for the period March 20 to May 10, 1996, reviewing the 7 Italian newspapers with the highest nationwide circulations. Relevant articles were identified by hand search, reading each headline, subheading, and half title, and were classified according to date of publication, page number, and proportion of page occupied. To identify articles that contained more specific scientific information, we collected information on whether newspaper articles mentioned the following characteristics of v-CJD reported in The Lancet: number of cases, age, mean duration of disease, and there is evidence that articles published in peer-reviewed journals may have a significant impact on the lay press. It has been suggested, however, that early announcements of research work to be published in peer-reviewed journals may greatly diminish newsworthiness of scientific articles.

The aim of the present study was to analyze the impact on the news media, in terms of volume and prominence of coverage, of a scientific article published in peer-reviewed journals about issues with great relevance to public health compared with impact of preliminary release of information on the same issue. To this end we analyzed how the “mad cow affair” was reported in Italian newspapers in the spring of 1996.

Mad cow disease is the popular name for bovine spongiform encephalopathy (BSE), identified in 1986 among British herds. In 1989 concern was expressed on the possible risk of BSE transmission to humans, resulting in Creutzfeldt-Jakob disease (CJD). On March 20, 1996, the British secretary of state for health made a statement in the House of Commons announcing the identification of a new-variant CJD (v-CJD) in 10 young people, and stating that the most likely cause of these cases was exposure to BSE, without mention of clinical and neuropathological findings that led to the identification of v-CJD. Immediately all over Europe concerns were raised on eating British beef. The scientific article describing these cases in detail was published in The Lancet on April 6, 1996.
newspapers were not published because of a strike (March 30) or national holidays (April 8 and May 2). The peak of press coverage was recorded after the first statement on v-CJD, 2 newspapers each had 1 article on the mad cow affair. In the days that followed, the Italian press had already decreased by the time the Lancet article was published and no further peak of press coverage followed its publication. Moreover, 4 of the 7 Italian newspapers studied did not mention the Lancet article.

Journalists apply 2 tests to any piece of information in the field of science and medicine: is it genuine, and is it news? The information presented in the peer-reviewed article should be expected to have a higher scientific credibility for journalists than the official announcement that started the affair. However, the time period between the first news release and the scientific article publication (slightly more than 2 weeks) could have been a long enough time span to determine that the information on CJD had already partially lost its newsworthiness by the time the Lancet article was published.

These data suggest that when a peer-reviewed scientific article on a health risk is published after this risk is disclosed to the public by other means, its impact on the media is low. However, some limitations of this study must be considered. First, we did not analyze coverage patterns of other news media such as television, although there is evidence in Italy that in other cases of emerging health risk, television coverage follows the same pattern as newspapers (Carlo Fido, oral communication, 1998). Second, the case we analyzed was characterized by the potential of significant and immediate implications for public health; therefore, our results cannot be generalized to the routine publication of peer-reviewed research.

The lack of synchronicity between announcement to the media and full publication of scientific data may negatively affect the quality of information conveyed to the public.

In the case we analyzed, scientists were asked by the press to give an expert opinion, most often during the period of maximum mass media attention, when most of the scientific information on v-CJD was conveyed by newspapers to their readership. Moreover, physicians may have been asked by their patients to give out more detailed information about a possible new health hazard, as reported in similar situations. However, the possibility for scientists and physicians to provide to the public a balanced view of this emerging problem could have been impaired by the fact that most of them did not have access to full scientific data eventually reported in the peer-reviewed article.

To improve the communication to the public and within the scientific community in the case of emerging public health risks, 3 points should be considered. First, research work with potential pub-
Press Releases of Science Journal Articles and Subsequent Newspaper Stories on the Same Topic

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**Context.**—Scientific journals issue press releases to disseminate scientific news about articles they publish.

**Objective.**—To assess whether press releases about journal articles were associated with publication of subsequent newspaper stories.

**Design.**—Retrospective content analysis of newspaper stories, journal press releases, and journal tables of contents. From December 1, 1996, to February 28, 1997, press releases and tables of contents were collected from BMJ, Nature, Science, and The Lancet, along with newspaper stories on scientific research published in The New York Times (United States), Le Figaro and Le Monde (France), El Pais and La Vanguardia (Spain), La Repubblica (Italy), and the International Herald Tribune.

**Main Outcome Measurements.**—Number of newspaper stories that contained reference to articles appearing in the 4 scientific journals, number of newspaper stories that referred to journal articles described in press releases, and the order in which journal articles were mentioned in press releases.

**Results.**—Of the 1060 newspaper stories analyzed, 142 referred to journal articles; of these, 119 (84%) referred to articles mentioned in press releases and 23 (16%) referred to journal articles not mentioned in press releases (comparison of proportions, \( P = .03 \)). Articles described first or second were referenced in more newspapers than articles described later in the press release (\( P = .01 \) by \( \chi^2 \) analysis).

**Conclusions.**—Journal articles described in press releases, in particular those described first or second in the press release, are associated with the subsequent publication of newspaper stories on the same topic.

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MANY SCIENTIFIC journals now produce press releases to encourage journalists working for the news media to bring the material they contain to wider audiences. A study by Entwistle \(^1\) revealed that 81% of journal articles mentioned in the British press were included in journal press releases. In a previous study of the Dutch press, Van Trigt et al. \(^2\) concluded that press releases were used by journalists as a source of ideas rather than as a source of information. Do press releases set the agenda for science journalists publishing in the general press? This study was conducted to examine, on the international level, the possible association between the appearance of science journal articles in press...