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Abstract

The mass media function both as reflector and a shaper of a society's attitudes and values and as such represent a forum within which one may understand and influence public opinion. While questions of medical ethics may be largely confined to academic and scientific spaces, their importance to society at large cannot be denied, and how issues of medical ethics play out—if at all—in the media could tell us how society understands and processes these questions. This paper uses the techniques of framing analysis and textual analysis to examine how the print media, represented by two major Indian newspapers, cover medical ethics. The study looked at all articles related to medical research over a three-month period (January – March 2007) and considered how the story was framed, what were the key threads followed, and the dominant themes focused on. The ethical frame is notable by its absence, even in articles related to controversial themes such as drug research and genetics. Discussion of ethics appears to be problematic given the adherence to traditional "news values" when covering science and medicine. The research community and the media need to pay more attention to explicitly focusing on ethics in their interactions.

In today's culture of pervasive media and commercialism, issues related to public policy and civic life have cropped up in unexpected ways. At the same time there has been a shrinking of spaces for informed public debate and discussion of such issues. Most of the discussion is restricted to closed academic forums or interest groups. The mass media are therefore important as a space where an open society can learn about, and possibly engage with, issues that affect life and living.

The mass media–newspapers, popular magazines, radio, television, and increasingly, the Internet–play a dual role. They not only bring information and opinion about different areas of social, economic and political activity to the general public, they also convey to the policy makers and holders of power a sense of public opinion.

Science is an important area of activity in any society. It leads to knowledge generation, and also feeds the application of such knowledge in a manner that affects health, livelihoods, education, food, and various other aspects of life. The news media are an important determinant of the ethical and legal climate within which science is done and scientific "products" are constructed and received. While serious disciplinary debate no doubt occurs within academic and professional forums, those who participate in such debates, and those who make policy decisions relating to the issues of debate, are partly socialised by their exposure to the mass media. In this context, popular accounts of science do, to some extent, determine the direction and content of such debates, particularly on issues where a high degree of disciplinary interfacing takes place, and the participants come from a variety of specialised areas. Moreover, people in an open society need information about the issues on which they vote, and are taxed, and the media contribute in an important way to maintaining this public discourse (1). In fact, some have gone so far as to say that the news media play a role in "framing the vocabulary" of this discourse (2).

However, the media and science have an uneasy if necessary relationship. Several scholars have critiqued the nature of science coverage in the media (3, 4), and both journalists and scientists acknowledge the problematic nature of this relationship, stemming from their different value systems.

In general, the media are accused of having an "unquestioning" attitude toward science, and often is deliberately celebratory of science, sometimes with an obvious "gee whiz" approach to coverage. Science is about process and proof, the latter taking several months and years, while news is instant, and is about drama and heroism. The differing value systems of science and news often lead to situations where scientific controversies are presented as controversies between people and institutions rather than as issues inherent to the nature of scientific discovery and development (5). Only occasionally is the "science" behind the disagreement explained, and process information is rarely explicated.

These problems are acknowledged by communicators of science, and were articulated in the keynote address at the ninth conference of the International Network of Public Communication of Science and Technology: "Science communicators should encourage public debates about science and technology, rather than simply tell people about the subject...."

At the same conference of the American Association for the Advancement of Science, Chief Executive Officer Alan I Leshner noted: "If research has always been evaluated according to the costs/risks-benefits equation, today much of the research touches upon issues of core human values and this is why society wants to influence science instead of just being influenced by it." (6)

The news media and bioethics

Within the broader field of science, bioethics is particularly problematic. Ethical issues are by their very nature complex, take time to understand and in most cases have no clear resolution that can be neatly presented in a 500 or even 1,500 word article that follows the standard journalistic formula.

In general, stories in the mass media focus on events and people, and issues tend to be encapsulated within the principle of "newsworthiness" and are assessed on the basis of "news values" such as timeliness, prominence, proximity, magnitude, impact, human interest and conflict. They rely on snappy quotes and dramatic descriptions, facts that can be easily fitted into the structure of the inverted pyramid or a feature. Journalistic culture tends to be ambivalent about ideas, as they are more difficult to write about and take up more space and few journalists have the skills and understanding to tackle ideas competently (1). Nevertheless, newspapers do from time to time carry stories on ethical dilemmas in science, medicine and technology, such as end-of-life issues, genetic engineering, organ procurement and transplantation, HIV testing and confidentiality, and so on.

Given the complexity of such issues, and the limitations of the news media to deal with them in a manner that could fully inform public discourse, it is important first to understand how issues of ethics in medical research are presented in the mass media, and then to encourage a dialogue between journalists, scientists and ethicists about how the media can foster better public understanding of these issues. So the questions to ask initially are:

- How does bioethics get covered in the press?
- What are the "frames" and news values applied to such issues?
- What is the level of explanation or exposition offered?
- Who gets quoted and what sorts of quotes are used?

Survey of bioethics coverage in two national newspapers

This paper attempts to answer some of these questions, and to arrive at an understanding of how the discourse on bioethics plays out in the mass media, through an analysis of relevant articles in two major newspapers, *The Hindu* and *The Times of India*, during a three-month period, from January through March 2007. Newspapers were selected over other news media partly for reasons of convenience (print being easier to access and analyse) but mainly because the print media are generally considered to be "media of record" for the purposes of public discourse. Newspapers also cover a wider range of topics in greater depth than does television, so there is a greater chance of complex issues being discussed in print. There is a general perception that newspapers are also to be taken more seriously, and are less influenced by the commercialisation that has seeped into most mass media.

Both newspapers selected for this study are large circulation papers published from multiple centres in the country. *The Times of India* is more popular in the western and northern parts of the country while *The Hindu* has a larger readership in the four southern states. Both are considered to be papers of record, read by the intelligentsia and opinion leaders across the country.

Method of analysis

A period of three months was earmarked for the study–January 1, 2007 to March 31, 2007. The newspapers' web archives were searched using the Google search engine for articles relating to bioethics during this period, using the following key words: *medical ethics, bioethics, medical research, clinical trials, drug trials, stem cell research, genetic research, cloning,* and *euthanasia*. These key words were used based on a perusal of the literature, which indicated that these were the topics most likely to be covered by the media in relation to ethical dilemmas.

The search yielded 14 articles that in some manner touched upon ethical issues. These articles were downloaded and saved, and later analysed following a close reading. The method of textual analysis was applied, which involves reading the complete text of each article, including the headline and photo captions, and noting the presence and content of photographs. This method was first utilised prominently by the erstwhile Centre for Contemporary Cultural Studies in Birmingham (7) and the Glasgow University Media Group (8) as a means of going beyond traditional content analysis of media texts. Textual analysis allows the analyst to go beyond merely counting elements (words, phrases, combinations of words) in an article to looking at the occurrence of certain themes which may add up to a "frame" that structures the presentation of the content. Textual analysis also provides a means of situating the text within the larger media environment and its connections with other methods of meaning production in society.

The analysis looked at the main theme highlighted in the headline, the news values indicated in the lead paragraph, the sources used to support the story, and the overall "frame" that was applied to present the story. "Framing" is a technique that is consciously and unconsciously used by journalists to provide a way of making sense of events. Framing tends to present the information in the article within a pre-determined storyline, thus forcing a limited set of "understandings" of the issue. Frames are built by the choice of vocabulary, the order in which facts are presented, the people who get quoted and the specific quotes that are chosen, and by what key elements are included and omitted in the writing.

Ethics–barely covered!

During the study period of three months, *The Times of India* carried five stories containing the key words listed above, while *The Hindu* carried nine. On closer examination, it was clear that a majority of the articles that had mention of the terms did not discuss ethics in any substantive fashion. Most had only a passing mention of the ethical aspect of a given issue, such as in this article reporting a meeting of stem cell scientists in which the reference to ethics was only in the following sentence:

> A public debate in five cities was planned in mid-2007 to frame rules and regulations, covering ethics, cGMP (current good management practices) in manufacturing and laboratory and clinical research....
>
> *(The Hindu*, 'Guidelines being framed to regulate stem cell research', January 31, 2007)

Of the nine articles in *The Hindu* that contained the key search terms, only three discussed the issue of ethics in some detail, though even here it was more the necessity of debates on ethical issues being noted rather than any substantive discussion on the issue. This is evident in the following article:

> ...so many clinical trials had been coming into India at a faster pace, and this necessitated a speedier effort in training researchers in good ethical practices with an overall objective of protecting the interests of human participants.
>
> *(The Hindu,* 'Medical ethics committees to be regulated', February 21, 2007)

Three articles in *The Hindu* discussed the specifics of ethics in research and one of these, a weekly review by the Readers' Editor, also discussed the reporting of medical research, responding to a criticism from a reader who had noted that a report in the paper "gives an erroneous impression about the disease causation and its incidence". The other two articles discussed specific issues such as the need for ethics committees in institutes and the potential implications of a new brain scanning technology. Seven of the nine articles originated from events, where the report of the event was the primary focus and the issues arising from the discussion were simply mentioned and not followed through in any way either with quotes from the sources or informed comment by the writer. Two of the stories carried photographs of speakers or of the meeting that had been reported.

In *The Times of India*, which had five stories that contained the key terms, ethics received only passing mention in four, including one that spoke at length of research in regenerative medicine ('Eternity code', January 28, 2007), again, only to make the point that ethical issues needed to be considered. The one article that did deal with an ethical issue in research was related to the relationship between pharmaceutical companies and clinicians ('No foreign jaunts for medical faculty', January 17, 2007).

The amount of coverage therefore was quite limited in terms of column inches devoted to medical ethics as well as in terms of the detail of reportage. Nevertheless, the available reports were further analysed to understand the way the issue was framed, the kinds of explanations offered (if any), and the range of sources quoted.

Reporting ethics–frames without a picture

As mentioned earlier, very few of the articles dealt specifically with ethics, so in a sense ethics itself was never a frame for an article. The main news values that applied to the stories that were selected for analysis were timeliness (current events such as meetings and ministerial/corporate announcements), prominence (statements made by eminent scientists or government officials/politicians), human interest (discussion of death and immortality, cloning of organs or human beings), and conflict (conflicts of interest in doctors endorsing pharmaceutical products). Impact, which is an important news value that is applied in analytical as well as straight news reports of topics such as the budget, disasters and accidents, disease outbreaks or the stock market, was less in evidence in the science stories that were selected for analysis. Only in three stories was possible impact alluded to in the lead, in terms of the expected fruits of such research. For instance, an article about a meeting on stem cell research in India carried the following lead:

> The first international meet in India of scientists engaged in stem cell research began here on Monday to take stock of the rapid advances being made in this field in the public and private sectors. D Balasubramanian, president of the Stem Cell Research Forum of India (SCRFI), said stem cells and regenerative medicine, though still in the research stage, was rapidly moving toward the development of effective cures for a host of diseases by targeting the cause of the diseases.
>
> *(The Hindu,* 'First international meet in India of stem cell scientists begins', January 1, 2007)

A story that reported a convocation ceremony at MGR Medical University carried a lead quoting the vice chancellor of the university (therefore having the news values of prominence and timeliness) but later in the article noted that "...the quality of practice had gone down drastically and medical ethics had also lost its relevance in a commercial world" ('Medical graduates told to keep up with the latest', *The Hindu*, January 26, 2007). So the impact of the sidelining of ethics was mentioned, but no more than that.

Another article with a second level headline, 'New Bill provides for punitive measures, says Deputy Director General, ICMR' (*The Hindu*, February 21, 2007) highlighted the proposal to set up ethics committees in all research institutions (news value of timeliness), and the rest of the article discussed the need for such committees and listed the kinds of issues they would have to handle. But beyond a reporting of statements made by the ICMR director general, there was no analysis or further detail about the impact such committees would have on research, or on the participants of research.

There appears to be an acknowledgement–in the few instances that they are mentioned–that ethics is important and that ethical review of research does have an impact, but what this impact is and how it affects the direction of research or its application is not elaborated. However, in two stories the frame was clearly that of the attendant disadvantages of technological progress. This is evident in the story on the development of a computer-assisted neuro-physiological system that can interpret the unique patterns of human brain activity:

> Barbara Sahakian, a professor of neuro-physiology at Cambridge University, said the rapid advances in neuroscience had forced scientists in the field to set up

> their own neuroethics society to consider the ramifications of their research. "Do we want to become a 'Minority Report' society where we're preventing crimes that might not happen? For some of these techniques, it's just a matter of time. It is just another new technology that society has to come to terms with and use for the good, but we should discuss and debate it now because what we don't want is for it to leak into use in court willy nilly without people having thought about the consequences".
>
> *(The Hindu*, 'The brain scan that can read people's intentions', February 14, 2007)

The other article where ethics was mentioned early on (in the lead itself) and where it continued to be a thread of the report was a straight news story reporting the convocation speech at a large medical university:

> As the power of technology grows, ethical responsibility of the medical profession will also increase, M S Swaminathan, UNESCO Cousteau Chair in Ecotechnology and Chairman of M S Swaminathan Research Foundation, said on Friday.
>
> *(The Hindu*, 'Call for debate on ethics in medicine', February 17, 2007)

In order to see whether ethics was mentioned, if not as the main theme of a story, then as an aspect of a science report, key terms such as "stem cell research","end of life issues","euthanasia" and "clinical trials" were also used to search for articles, along with the term "ethics". Most of the articles mentioned earlier in this paper (nine in *The Hindu* and five in *The Times of India)* that contained these terms however did not use ethics as a "frame" to discuss any of the issues. As in the news values, the main frame used was "topicality", or as in the story entitled "Eternity Code", it was celebratory of science.

When it came to discussion of medical practice, however, there was a little more attention paid to ethics in the stories analysed. Those that dealt with events such as convocations and meetings did mention, however briefly, that clinicians needed to pay attention to ethics of practice. The one article that dealt with ethics in medicine in relatively greater detail was a story about the practice by pharmaceutical companies of giving doctors special favours and gifts to endorse their products:

> Drug companies have been spending lavishly in sponsoring physicians and their spouses on trips to different places for educational symposia. Cars are also being given. "We hope the medical fraternity by themselves follow the regulations in the MCI Act," an official said.
>
> *(The Times of India*, 'No foreign jaunts for medical fraternity', January 17, 2007)

This article was based on a statement made by the president of the Indian Medical Association, and while it laid out the code of practice and the contraventions by medical practitioners, it did not explain the issue or its implications.

One article took the form of a narrative that discussed the Mental Health Act and its implementation, and the way it played out in the experience of one patient and her family. It touched upon the contradictions in the Act and the difficulties in applying it evenly to the wide range of mental illness, merely alluding to ethical considerations in these observations:

> WHO believes (Resource Book on Mental Health Legislation, 2005) that two concepts that are central to decisions about whether or not a person may make choices concerning various issues are "competence" and "capacity". These concepts affect treatment decisions in civil and criminal cases, and the exercise of civil rights by persons with mental disorders.
>
> *(The Times of India*, 'Crazy kiya re', March 14, 2007)

Absent sources: invisible ethicists and participants

Since the stories selected for analysis were mainly reports of events, the sources tended to be speakers at the events; there were no additional interviews done to supplement the speeches reported. In the two feature stories that went into slightly more depth, the sources quoted were scientists from within the domain of research. The patients' or service seekers' perspective was not represented at all and neither was the ethics experts', even in the article that spoke of research aimed at extending life.

In the neuroscience article mentioned earlier, experts in the same domain were quoted on the ethical aspects of the research in question, and while they did raise critical points, no external ethical experts were quoted. Speeches by prominent scientists provided an opportunity to delve deeper into the issue of ethics, drawing upon a wider range of sources. However, these were not utilised further, perhaps due to the constraints of time and space. For instance, in the article on the nexus between pharmaceutical companies and doctors, only one source was clearly quoted (the IMA president) and the other source was identified only as "an official".

There were no stories that could strictly meet the news value of "conflict", which might have necessitated interviews with categories of sources other than doctors and policy makers, so this may not be a valid criticism of the stories studied. The one exception was an argument presented in a column that pitted a ministerial statement against a set of facts, highlighting this potential conflict in the lead. But even here, there were no sources quoted other than the minister who had made the original comment that was being refuted.

Despite the fact that formal journalistic norms stress the use of multiple sources in complex stories, few of the stories used more than one source. The sources quoted tended to be the "usual suspects"–lead scientists, ministers and vice chancellors, and occasionally, heads of departments of medical specialties.

But it's not news!

Clearly, ethics does not make news, particularly when the ethical issues are not black and white, when there can be no "good guys" to pit against the "bad guys", or there is no clear controversy involving prominent persons. Research ethics or

medical ethics did not get covered in a single editorial during this period, or in any major opinion column. The general lack of attention to the details of reporting such as using multiple sources, representing multiple points of view and different levels of hierarchy, that we see in the news media in general, also appears to be a problem in science or medical reporting.

None of the 14 stories that were analysed were on page 1 or on the editorial page, other than the column by the Readers' Editor of *The Hindu*. A majority were local reports relating to local or regional institutions or personalities, which appeared on the local or regional pages.

The newspaper industry, like the rest of the news media, operates under a variety of constraints. Perhaps the print media are somewhat less constrained by audience ratings and advertising demands than are the electronic media, but they are constrained nevertheless. There is a general perception that readers today are less interested in serious issues and those that require some amount of reflection and engagement–and education. Journalists fall into patterns of news gathering and writing that best suit the demands of deadlines and the perceived audience interest. Within this context, issues that require "work" to report and to understand are low priority–unless they have a clearly understood relationship with business and industry.

Any analysis is limited by the time frames it adopts, and this may have been the case here as well. Since the news is made up almost exclusively these days of event-based stories, with features and analysis done as follow-ups to events, it is likely that there was a lack of ethics coverage because there were no events that could be seen within an ethical frame. Ethics related to medico-scientific issues such as drug discovery and production, cloning and regenerative medicine, may not have found mention in the newspapers during this study period because there were no major conferences, or big announcements in the same period. A longer-term analysis, over a time frame of a year, perhaps, would yield a clearer picture.

So do we need to report ethics?

Discussion of ethics requires not only an understanding of the science in question, but also of the complexity of roles played by science and scientists in society and culture. Questions of ethics are not always obvious; they may become apparent only in the breach or only when it becomes too late to address them. Genetic research, for instance, is far ahead of the ability to counsel and to clearly articulate the ramifications of its applications. This is partly because individuals and communities have not been prepared with information or sensitised to the possible ways in which scientific developments may affect their lives. It is also because researchers tend to pay attention to only the scientific aspects of developments and their advantages and downplay the disadvantages–for a variety of professional and financial reasons. Institutional review boards and ethics sub-committees are an attempt to balance the human and materials costs and benefits of science, but often the questions that are raised and answered within these committees do not reach wider audiences.

More than ever before, science impinges on day-to-day life and the direction taken by research decides the nature of development. Some of the critical issues that also have a significant ethical component are: the development and use of genetically modified food and crops, human tissue engineering and regenerative medicine, drug discovery and clinical trials, and several other areas of genetic and bio-medical engineering.

Biotechnology research is considered to be particularly important in terms of its ethical implications, because of the commercial potential of the industry. In 2005, the industry was estimated at more than USD 50.3 billion (9). This includes the harvesting and sale of human tissues, pharmaceutical and cosmetic products derived from human and animal materials, and several other application areas.

If we believe that governance cannot be left entirely to the "specialists" that is, the politicians and the bureaucrats, and that an informed citizenry not only ensures good governance but in fact demands it, then by extension, the administration and application of science cannot be left entirely to those within the scientific establishment. A scientifically literate and sensitive public will participate in debates about the use of scientific research, and perhaps encourage responsible use of the products of science (10). Ethics plays a crucial role in this debate. Important questions that stem from or inform ethical decisions include:

- How much money is being spent on this research?
- What are the areas this research will affect?
- What will it take away from what we have?
- How will it contribute to what we have?
- Who will it benefit and how?
- What cannot be done as a result of placing resources in this area?
- What will we have to do to make the products of this research available to all?

These are questions that science does not always ask of itself. If the press is to continue to be an important intermediary between the public, academia, industry and other power structures, then the press must be a site for informed debate on issues of science and the ethics of science.

Several newspapers in the West have an "ethics" beat, and there are journalists whose business it is to routinely cover research in all its aspects because there is a high level of consciousness that public monies are being spent on these activities and therefore those who engage in them have to be publicly accountable.

Newspapers in India would do well to give some interested journalists the time and resources to cover science ethics on a regular basis, particularly ethical implications of medical research and service delivery. The medical and scientific establishment, too, would do well to interact with the media on a more regular basis, holding public discussions on the potential implications of research before it is translated into products or applications. They need to understand how the media works

how to position and present stories so that they fit the values and frames that the news media hold primary. If there is a healthy and involved dialogue among the public, the media and the science /medical establishment, then questions of ethics will naturally find their way into the pages of the press.

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List of stories analysed, *The Hindu* and *The Times of India*, January 1 - March 31, 2007

No.	Headline	Newspaper	Date	News values	Frame
1	Medical graduates told to keep up with the latest	*The Hindu*	26 Jan	Timeliness, Proximity (local)	Event of local significance
2	Planning Commission to strive for increasing public expenditure on health	*The Hindu*	28 Mar	Prominence	Recognition to prominent figures
3	Medical ethics committees to be regulated	*The Hindu*	21 Feb	Significance	Regulation of science and technology
4	Guidelines being framed to regulate stem cell research	*The Hindu*	1Jan	Proximity, Significance	Event of national significance
5	The brain scan that can read people's intentions	*The Hindu*	14 Feb	Significance, Human interest	Technology as a mixed blessing
6	Call for debate on ethics in medicine	*The Hindu*	17 Mar	Prominence, Impact	Moral and spiritual implications of research
7	Beyond briefings-check and review	*The Hindu*	5 Feb	Significance, Usefulness	Journalistic responsibility
8	Meet on critical care ends	*The Hindu*	12 Feb	Proximity, Significance	Medical responsibility
9	Code of ethics for doctors not being enforced	*The Hindu*	31 Jan	Prominence, Proximity	Medical responsibility
10	Science declines but technology advances	*The Times of India*	7 Jan	Prominence	Celebrating science
11	A road map for a healthy city	*The Times of India*	1 Jan	Proximity, Significance	Societal progress
12	Eternity code	*The Times of India*	28 Jan	Human interest, Significance	Celebrating science
13	No foreign jaunts for medical faculty	*The Times of India*	17 Jan	Conflict	Medical ethics
14	Crazy kiya re	*The Times of India*	28 Mar	Human interest	Individual rights and public health policy